Appendix A

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Irwin County and the City of Ocilla
Hazard: Hurricanes/Tropical Storms

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3861	3861	100.000%	$ 194,112,465	$ 194,112,465	100.000%	9,408	9,408	100.000%
Commercial	241	241	100.000%	$ 26,377,099	$ 26,377,099	100.000%	0	0	0%
Industrial	21	21	100.000%	$ 23,707,478	$ 23,707,478	100.000%	0	0	0%
Agricultural	2490	2490	100.000%	$ 559,252,003	$ 559,252,003	100.000%	0	0	0%
Religious/ Non-profit	121	121	100.000%	$ 12,248,277	$ 12,248,277	100.000%	0	0	0%
Government	88	88	100.000%	$ 17,635,810	$ 17,635,810	100.000%	0	0	0%
Education	11	11	100.000%	$ 37,015,884	$ 37,015,884	100.000%	0	0	0%
Utilities	14	14	100.000%	$ 66,385,070	$ 66,385,070	100.000%	0	0	0%
Total	6,847	6,847		936,734,086	936,734,086		9,408	9,408	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	**N**
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Irwin County and the City of Ocilla
Hazard: Tornadoes

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3861	3861	100.000%	$ 194,112,465	$ 194,112,465	100.000%	9,408	9,408	100.000%
Commercial	241	241	100.000%	$ 26,377,099	$ 26,377,099	100.000%	0	0	0%
Industrial	21	21	100.000%	$ 23,707,478	$ 23,707,478	100.000%	0	0	0%
Agricultural	2490	2490	100.000%	$ 559,252,003	$ 559,252,003	100.000%	0	0	0%
Religious/ Non-profit	121	121	100.000%	$ 12,248,277	$ 12,248,277	100.000%	0	0	0%
Government	88	88	100.000%	$ 17,635,810	$ 17,635,810	100.000%	0	0	0%
Education	11	11	100.000%	$ 37,015,884	$ 37,015,884	100.000%	0	0	0%
Utilities	14	14	100.000%	$ 66,385,070	$ 66,385,070	100.000%	0	0	0%
Total	6,847	6,847		936,734,086	936,734,086		9,408	9,408	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	**N**
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Irwin County and the City of Ocilla
Hazard: Floods

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3861	226	5.853%	$ 194,112,465	$ 13,203,432	6.802%	9,408	551	5.853%
Commercial	241	8	3.320%	$ 26,377,099	$ 1,533,587	5.814%	0	0	0%
Industrial	21	7	33.333%	$ 23,707,478	$ 5,404,775	22.798%	0	0	0%
Agricultural	2490	568	22.811%	$ 559,252,003	$ 145,056,010	25.938%	0	0	0%
Religious/ Non-profit	121	6	4.959%	$ 12,248,277	$ 302,412	2.469%	0	0	0%
Government	88	6	6.818%	$ 17,635,810	$ 1,187,754	6.735%	0	0	0%
Education	11	1	9.091%	$ 37,015,884	$ 174,300	0.471%	0	0	0%
Utilities	14	2	14.286%	$ 66,385,070	$ 19,936,950	30.032%	0	0	0%
Total	6,847	824		936,734,086	186,799,220		9,408	551	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	**N**
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Irwin County and the City of Ocilla
Hazard: Windstorms/Hailstorms/Lightning

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3861	3861	100.000%	$ 194,112,465	$ 194,112,465	100.000%	9,408	9,408	100.000%
Commercial	241	241	100.000%	$ 26,377,099	$ 26,377,099	100.000%	0	0	0%
Industrial	21	21	100.000%	$ 23,707,478	$ 23,707,478	100.000%	0	0	0%
Agricultural	2490	2490	100.000%	$ 559,252,003	$ 559,252,003	100.000%	0	0	0%
Religious/ Non-profit	121	121	100.000%	$ 12,248,277	$ 12,248,277	100.000%	0	0	0%
Government	88	88	100.000%	$ 17,635,810	$ 17,635,810	100.000%	0	0	0%
Education	11	11	100.000%	$ 37,015,884	$ 37,015,884	100.000%	0	0	0%
Utilities	14	14	100.000%	$ 66,385,070	$ 66,385,070	100.000%	0	0	0%
Total	6,847	6,847		936,734,086	936,734,086		9,408	9,408	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	**N**
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Irwin County and the City of Ocilla
Hazard: Extreme Heat

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3861	3861	100.000%	$ 194,112,465	$ 194,112,465	100.000%	9,408	9,408	100.000%
Commercial	241	241	100.000%	$ 26,377,099	$ 26,377,099	100.000%	0	0	0%
Industrial	21	21	100.000%	$ 23,707,478	$ 23,707,478	100.000%	0	0	0%
Agricultural	2490	2490	100.000%	$ 559,252,003	$ 559,252,003	100.000%	0	0	0%
Religious/ Non-profit	121	121	100.000%	$ 12,248,277	$ 12,248,277	100.000%	0	0	0%
Government	88	88	100.000%	$ 17,635,810	$ 17,635,810	100.000%	0	0	0%
Education	11	11	100.000%	$ 37,015,884	$ 37,015,884	100.000%	0	0	0%
Utilities	14	14	100.000%	$ 66,385,070	$ 66,385,070	100.000%	0	0	0%
Total	6,847	6,847		936,734,086	936,734,086		9,408	9,408	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	**N**
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Irwin County and the City of Ocilla
Hazard: Wildfires

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3861	3861	100.000%	$ 194,112,465	$ 194,112,465	100.000%	9,408	9,408	100.000%
Commercial	241	241	100.000%	$ 26,377,099	$ 26,377,099	100.000%	0	0	0%
Industrial	21	21	100.000%	$ 23,707,478	$ 23,707,478	100.000%	0	0	0%
Agricultural	2490	2490	100.000%	$ 559,252,003	$ 559,252,003	100.000%	0	0	0%
Religious/ Non-profit	121	121	100.000%	$ 12,248,277	$ 12,248,277	100.000%	0	0	0%
Government	88	88	100.000%	$ 17,635,810	$ 17,635,810	100.000%	0	0	0%
Education	11	11	100.000%	$ 37,015,884	$ 37,015,884	100.000%	0	0	0%
Utilities	14	14	100.000%	$ 66,385,070	$ 66,385,070	100.000%	0	0	0%
Total	6,847	6,847		936,734,086	936,734,086		9,408	9,408	

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	**N**
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

GEMA Worksheet #3a Inventory of Assets

Jurisdiction: Irwin County and the City of Ocilla
Hazard: Drought

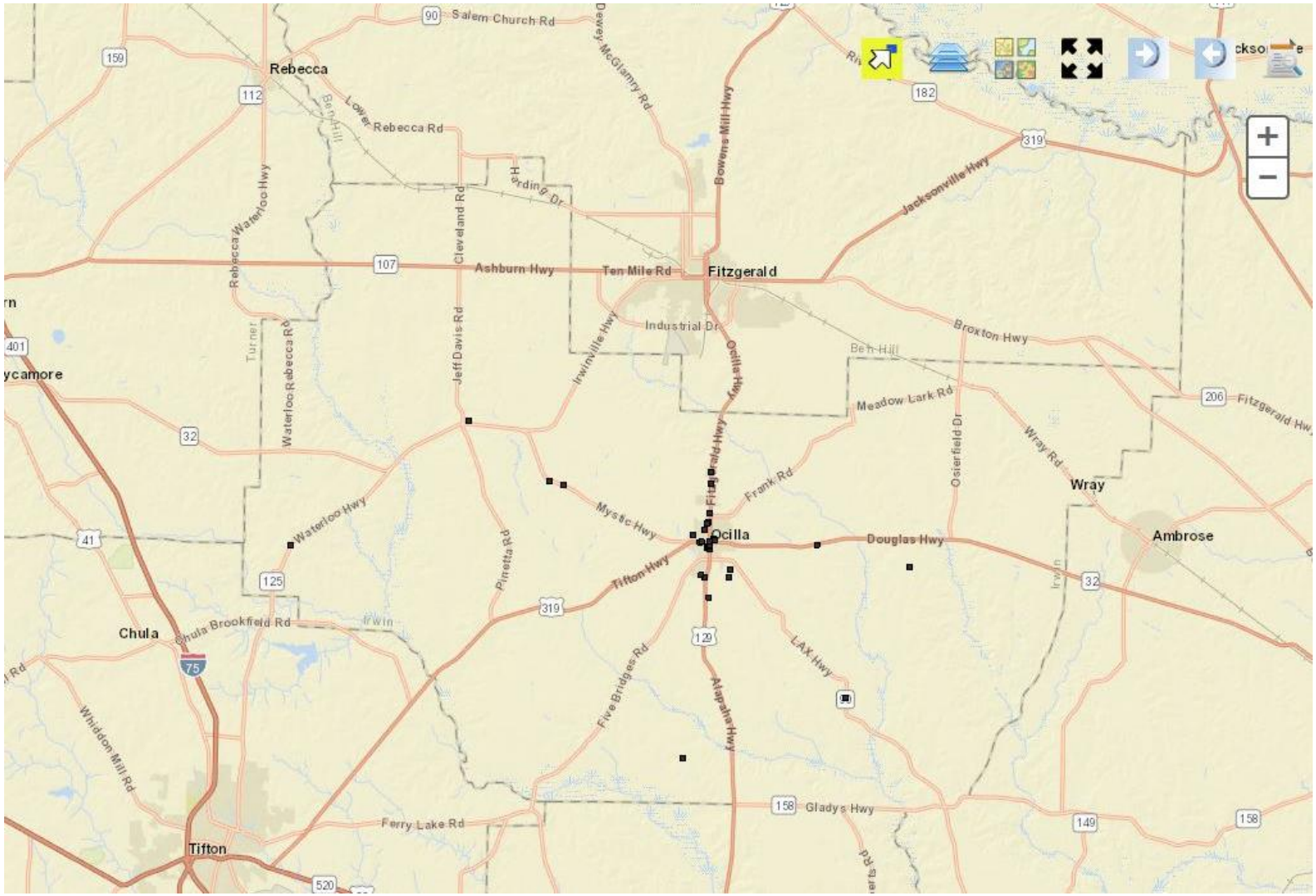
Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	$ in Community or State	$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	3861	3861	100.000%	$ 194,112,465	$ 194,112,465	100.000%	9,408	9,408	100.000%
Commercial	241	241	100.000%	$ 26,377,099	$ 26,377,099	100.000%	0	0	0%
Industrial	21	21	100.000%	$ 23,707,478	$ 23,707,478	100.000%	0	0	0%
Agricultural	2490	2490	100.000%	$ 559,252,003	$ 559,252,003	100.000%	0	0	0%
Religious/ Non-profit	121	121	100.000%	$ 12,248,277	$ 12,248,277	100.000%	0	0	0%
Government	88	88	100.000%	$ 17,635,810	$ 17,635,810	100.000%	0	0	0%
Education	11	11	100.000%	$ 37,015,884	$ 37,015,884	100.000%	0	0	0%
Utilities	14	14	100.000%	$ 66,385,070	$ 66,385,070	100.000%	0	0	0%
Total	6,847	6,847		936,734,086	936,734,086		9,408	9,408	

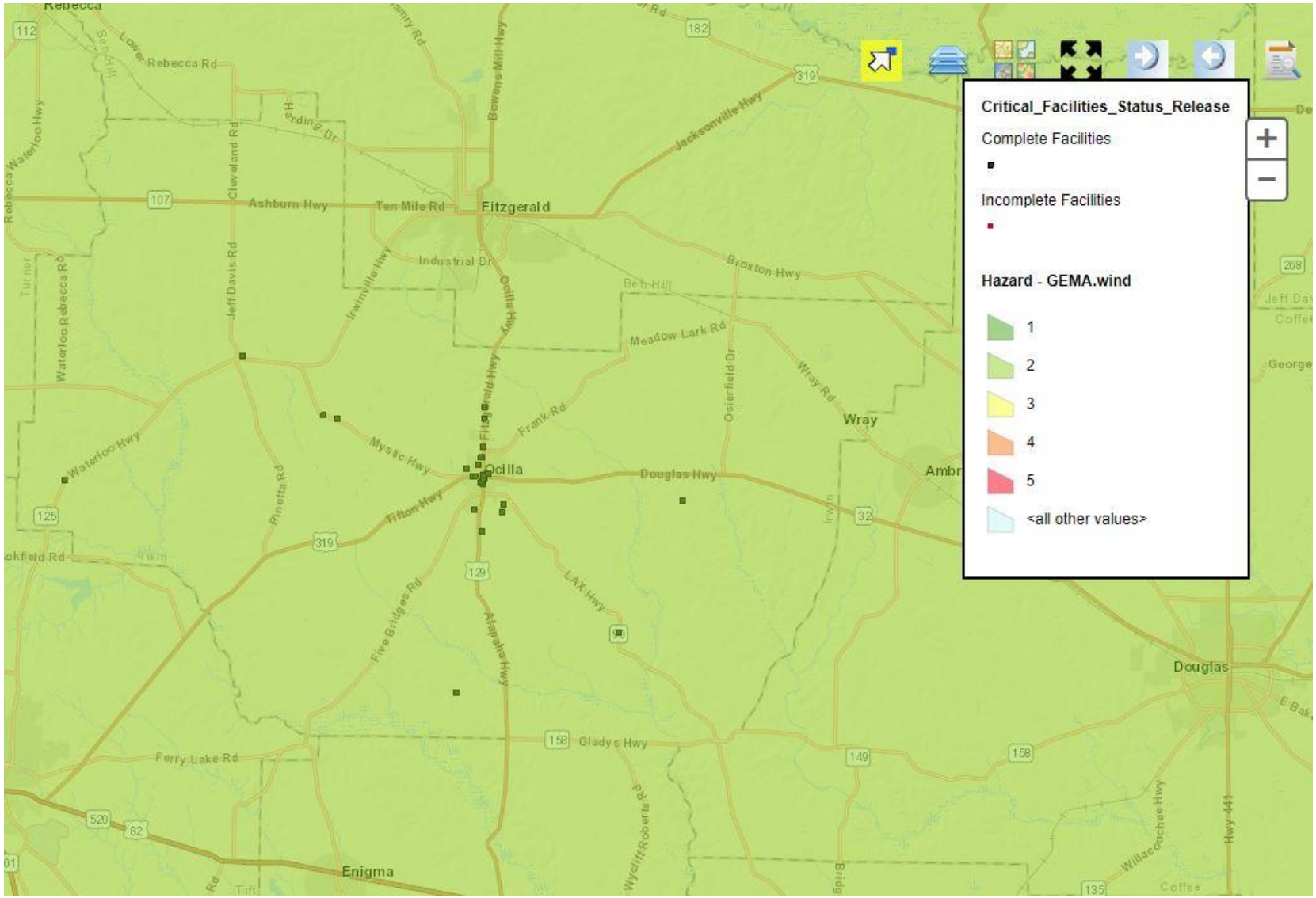
Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	**N**
1. Do you know where the greatest damages may occur in your area?	Y	
2. Do you know whether your critical facilities will be operational after a hazard event?	Y	
3. Is there enough data to determine which assets are subject to the greatest potential damages?	Y	
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	Y	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	Y	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	N	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	N	

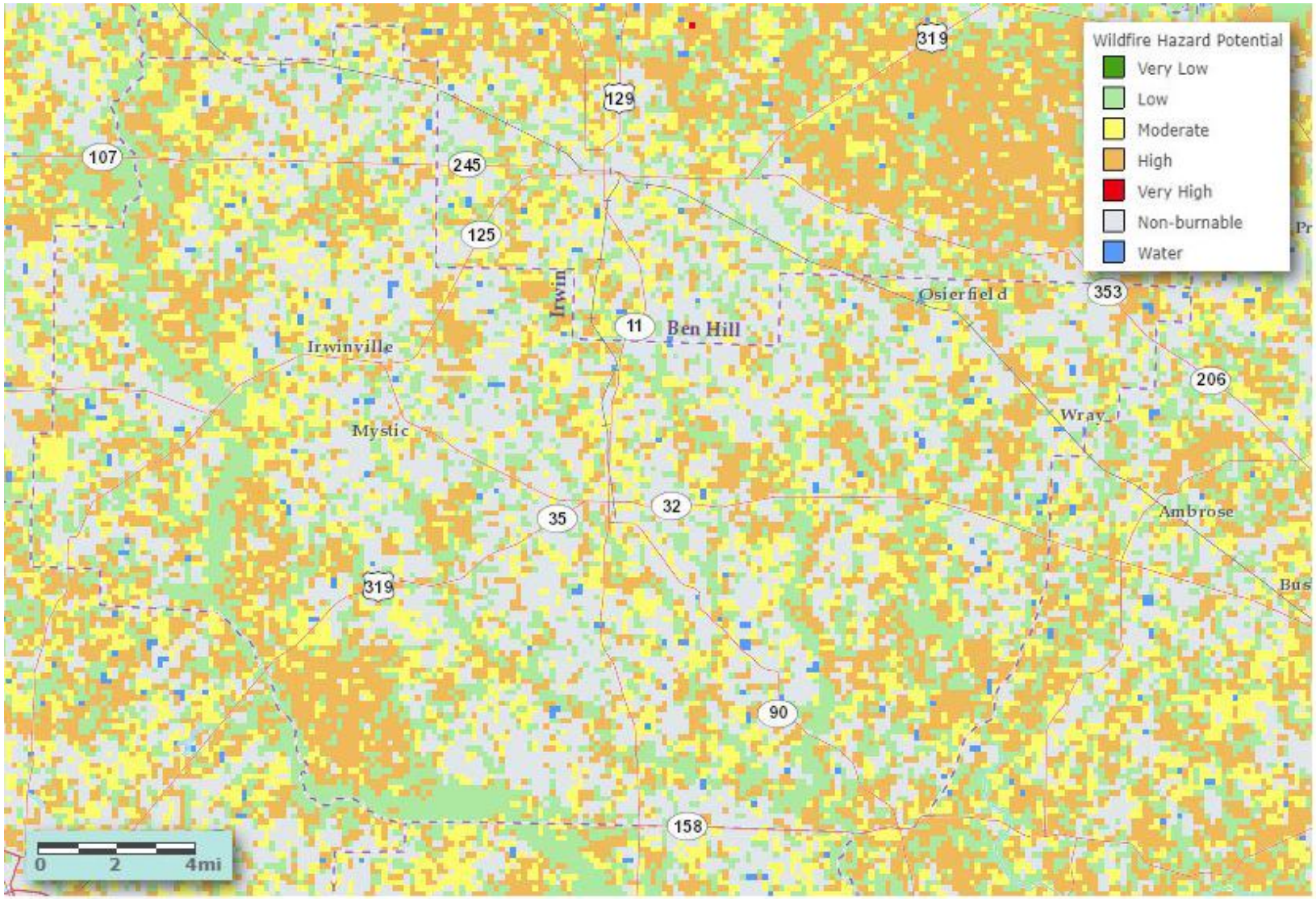
Critical Facilities and Hazard Potential for Hazards Affecting the Entire Community (Hurricanes/Tropical Storms, Tornadoes, Windstorms/Hailstorms/Lightning, Extreme Heat, and Drought)



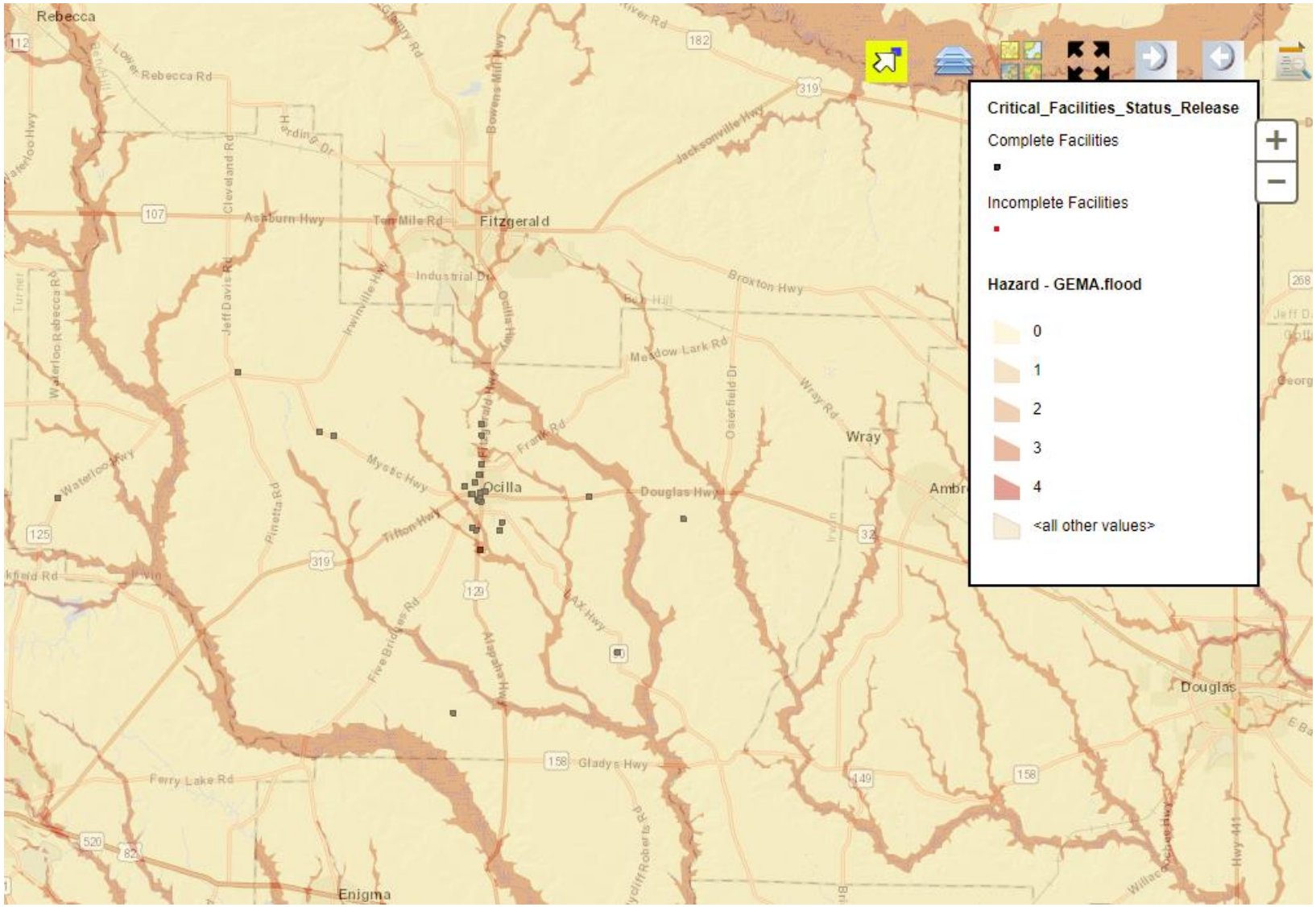
Critical Facilities and Wind Zones



Critical Facilities and Wildfire Hazard Areas (GMIS data)



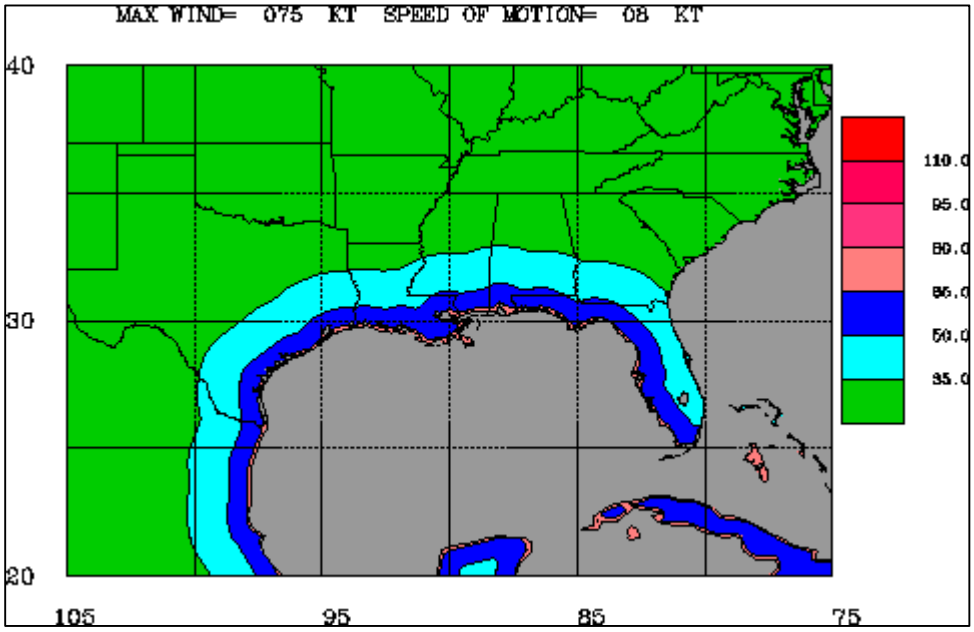
Critical Facilities and Flood Zones



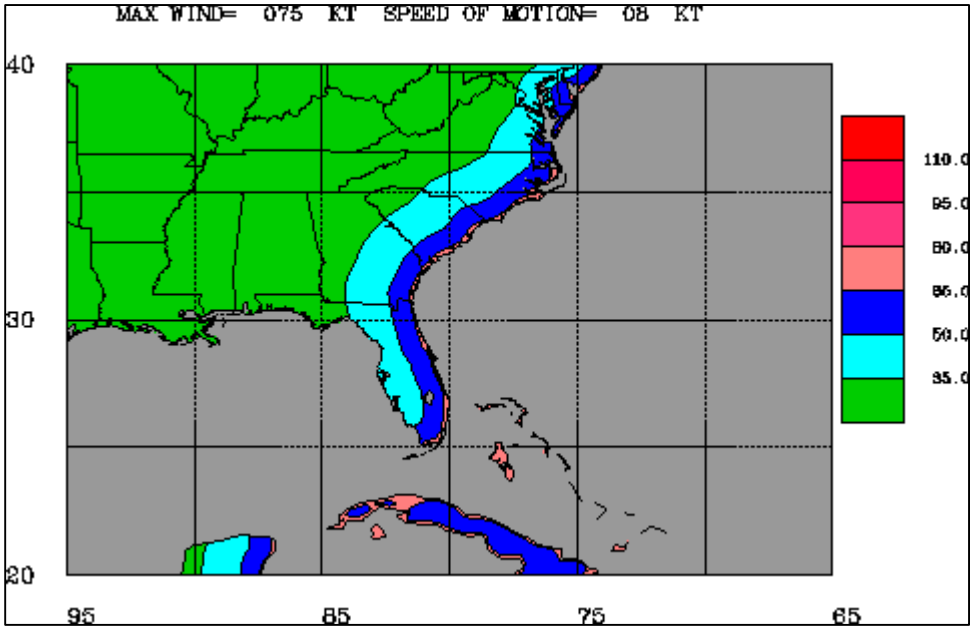
Examples of the Maximum Envelope of Wind
(Source: NOAA. http://www.nhc.noaa.gov/aboutmeow.shtml)

Mild case (Category 1, 8 knots forward motion)

Gulf Coast Region



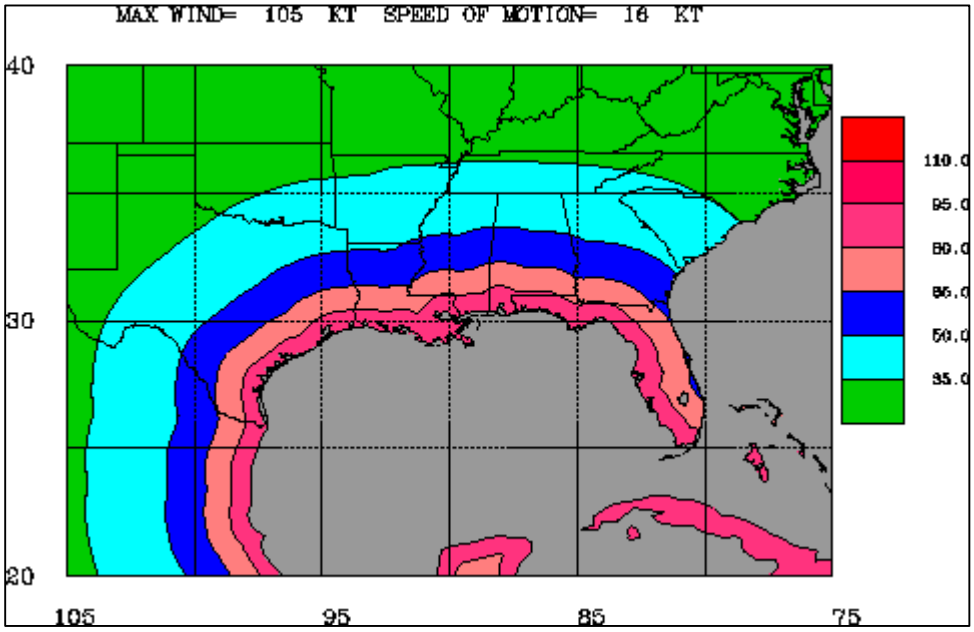
East Coast Region



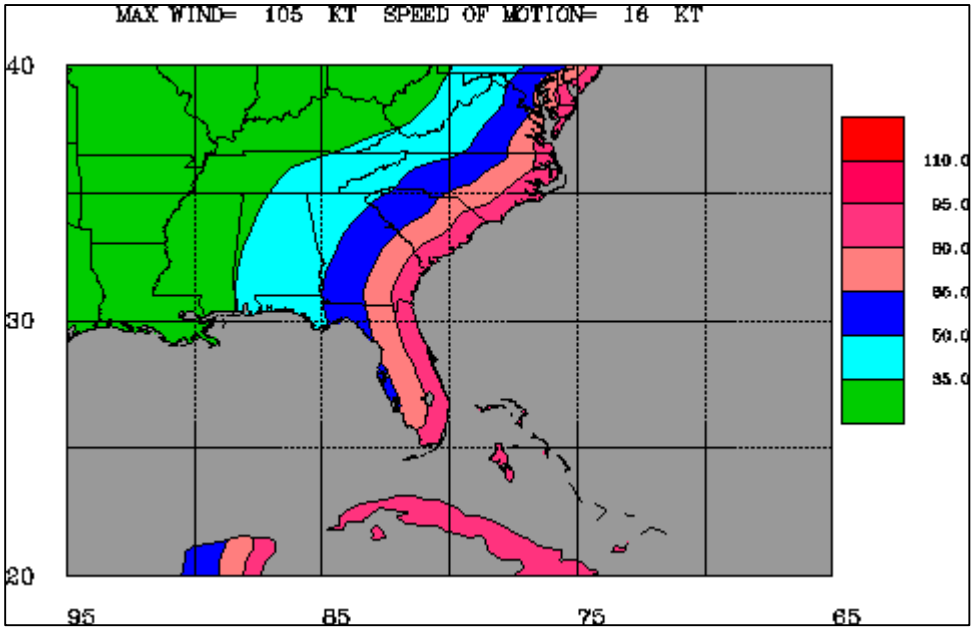
Examples of the Maximum Envelope of Wind
(Source: NOAA. http://www.nhc.noaa.gov/aboutmeow.shtml)

Mid-range case (Category 3, 16 knots forward motion)

Gulf Coast Region



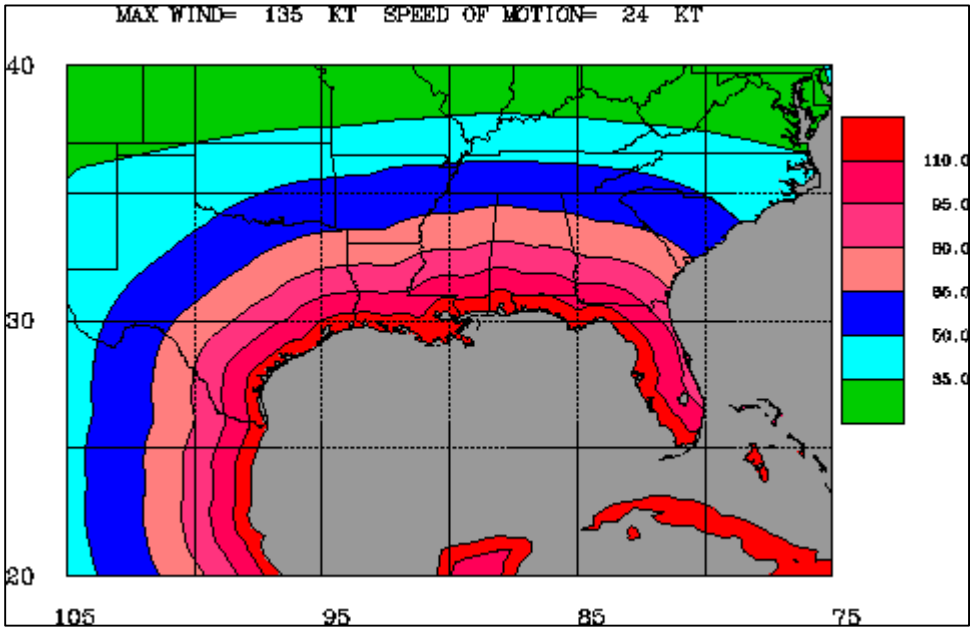
East Coast Region



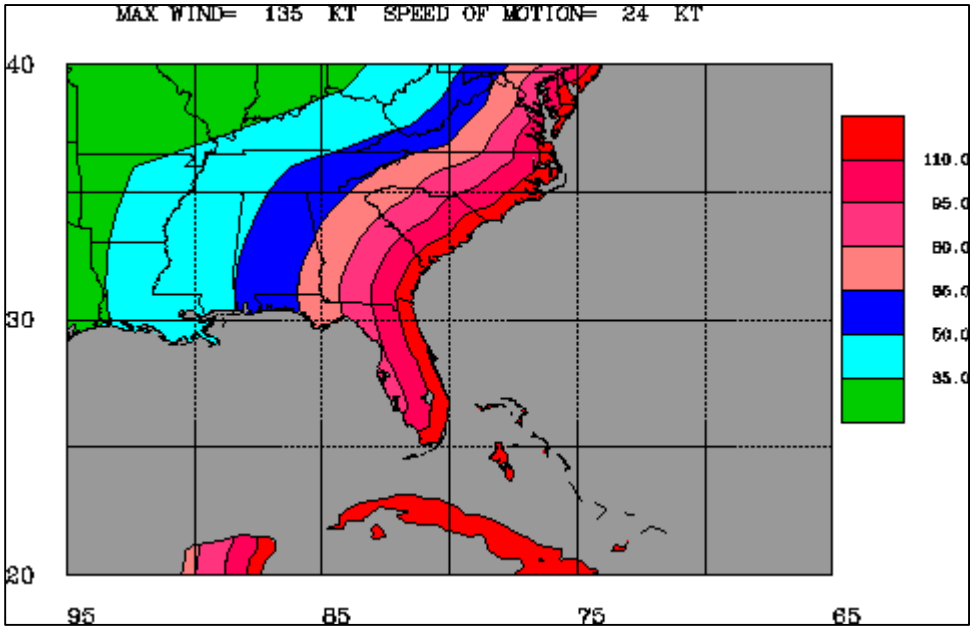
Examples of the Maximum Envelope of Wind
(Source: NOAA. http://www.nhc.noaa.gov/aboutmeow.shtml)

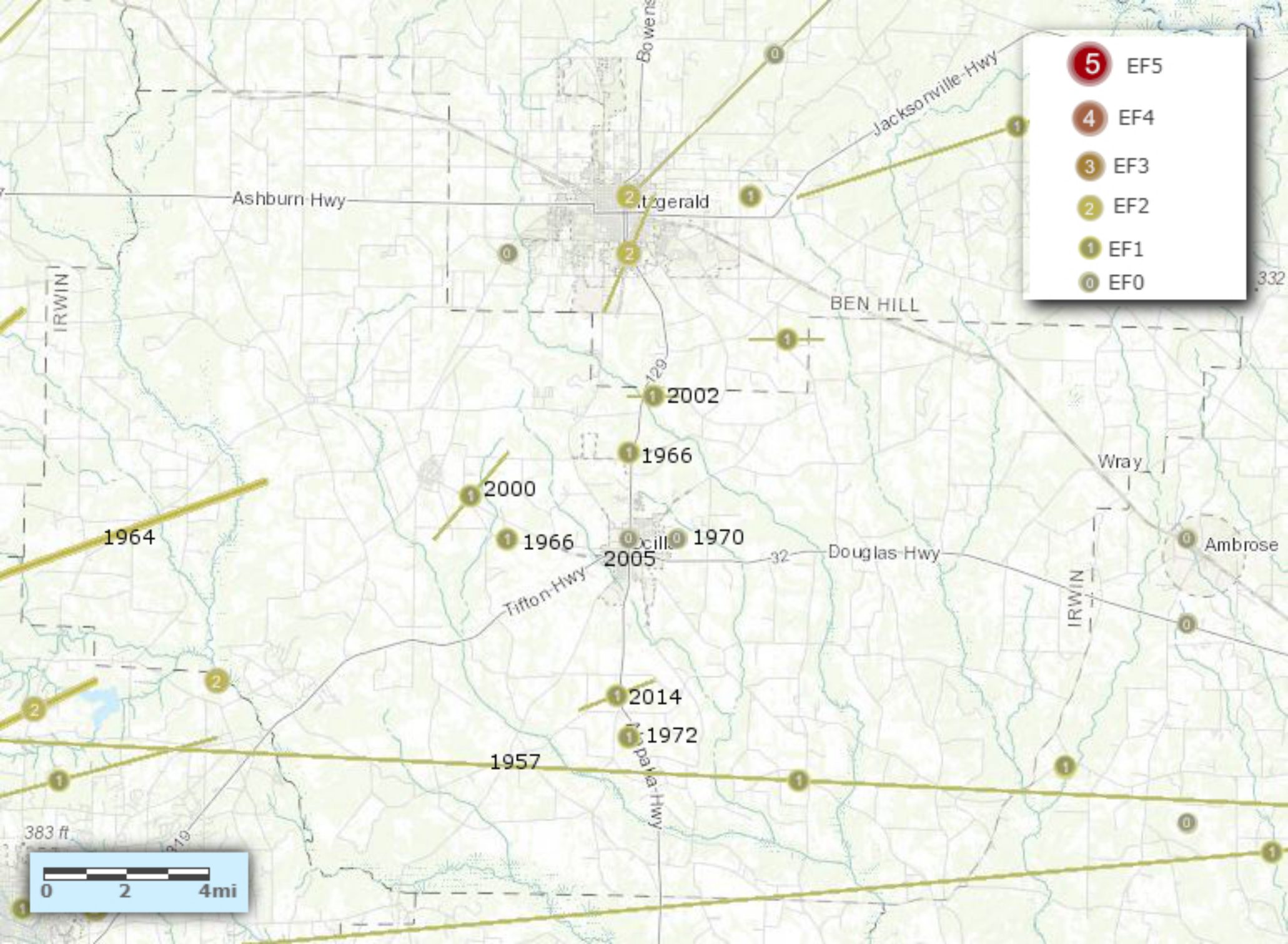
Worst case (Category 5, 24 knots forward motion)

Gulf Coast Region



East Coast Region



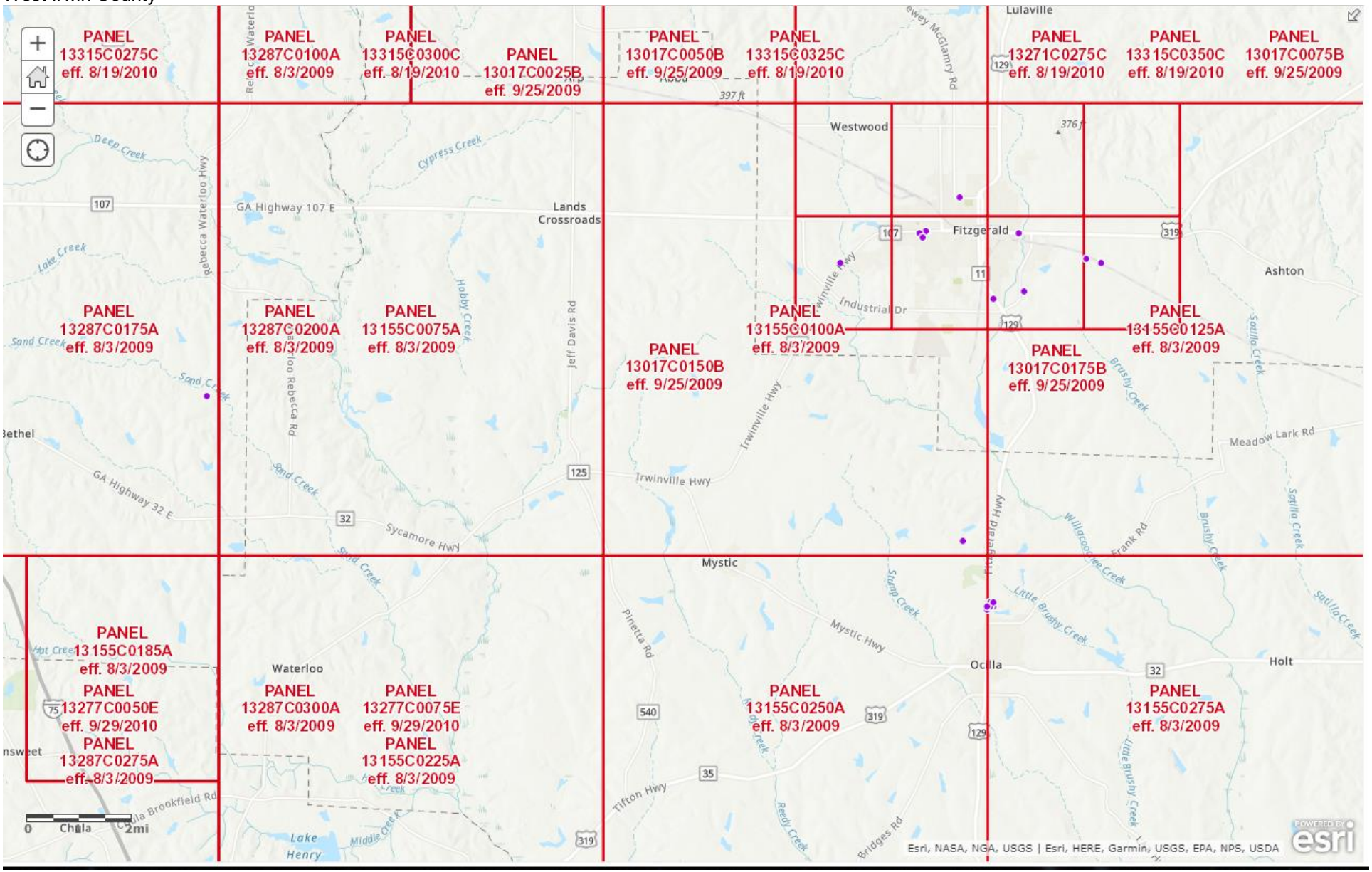

5 EF5
4 EF4
3 EF3
2 EF2
1 EF1
0 EF0
Ashburn Hwy
Jacksonville Hwy
BEN HILL
IRWIN
Douglas Hwy
Tifton Hwy
Wray
Ambrose
2002
1966
2000
1966
1970
2005
1964
2014
1972
1957
383 ft
0 2 4mi

FEMA Flood Maps

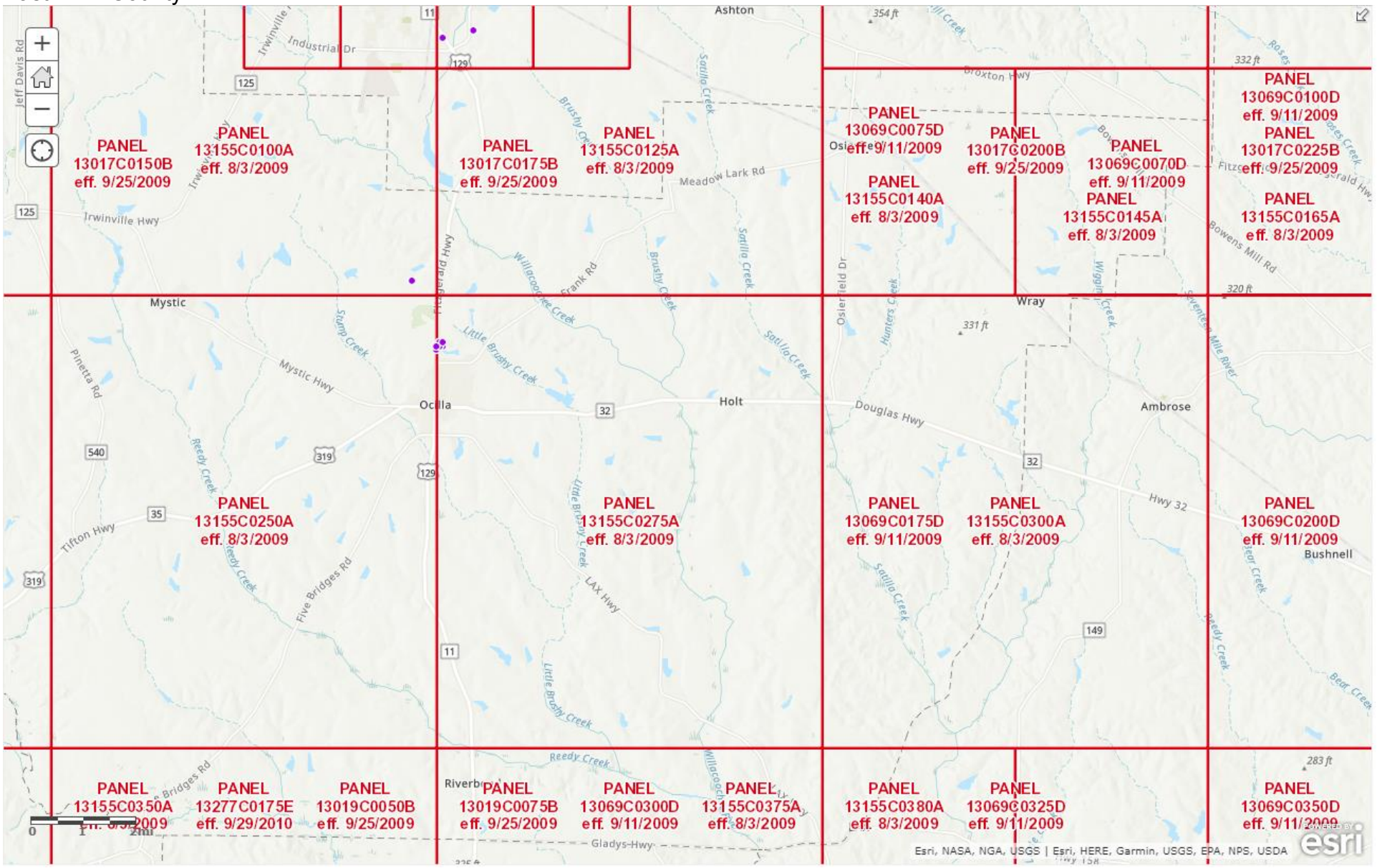
Source: ArcGIS Online (FEMA data)

https://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30

West Irwin County



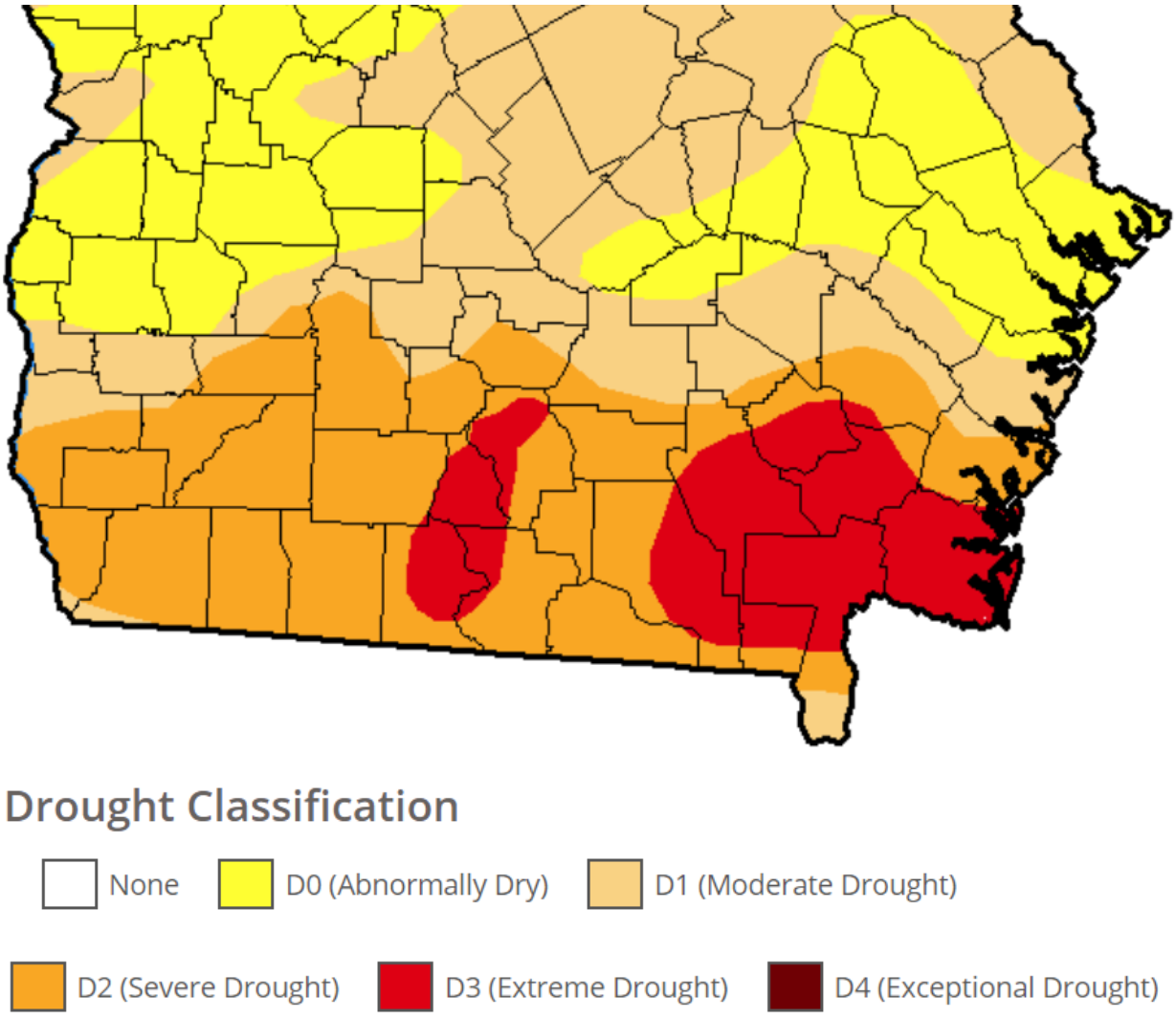
East Irwin County



Drought

The example map below, from the week of May 16, 2017, shows moderate to extreme drought conditions throughout southern Georgia.

Source: U.S. Drought Monitor
(http://droughtmonitor.unl.edu/Maps/ComparisonSlider.aspx)



Appendix B

United States Census Bureau

QuickFacts

selected: **Irwin County, Georgia**

QuickFacts provides statistics for all states and counties, and for cities and towns with a ***population of 5,000 or more***.

Table

All Topics	Irwin County, Georgia
Population estimates, July 1, 2016, (V2016)	**9,422**
PEOPLE	
Population	
Population estimates, July 1, 2016, (V2016)	**9,422**
Population estimates base, April 1, 2010, (V2016)	9,532
Population, percent change - April 1, 2010 (estimates base) to July 1, 2016, (V2016)	-1.2%
Population, Census, April 1, 2010	9,538
Age and Sex	
Persons under 5 years, percent, July 1, 2016, (V2016)	4.8%
Persons under 5 years, percent, April 1, 2010	6.3%
Persons under 18 years, percent, July 1, 2016, (V2016)	21.6%
Persons under 18 years, percent, April 1, 2010	24.3%
Persons 65 years and over, percent, July 1, 2016, (V2016)	18.3%
Persons 65 years and over, percent, April 1, 2010	15.6%
Female persons, percent, July 1, 2016, (V2016)	48.5%
Female persons, percent, April 1, 2010	49.6%
Race and Hispanic Origin	
White alone, percent, July 1, 2016, (V2016) (a)	70.2%
Black or African American alone, percent, July 1, 2016, (V2016) (a)	27.5%
American Indian and Alaska Native alone, percent, July 1, 2016, (V2016) (a)	0.2%
Asian alone, percent, July 1, 2016, (V2016) (a)	0.9%
Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2016, (V2016) (a)	Z
Two or More Races, percent, July 1, 2016, (V2016)	1.1%
Hispanic or Latino, percent, July 1, 2016, (V2016) (b)	3.7%
White alone, not Hispanic or Latino, percent, July 1, 2016, (V2016)	67.4%
Population Characteristics	
Veterans, 2011-2015	746
Foreign born persons, percent, 2011-2015	0.8%
Housing	
Housing units, July 1, 2016, (V2016)	4,008
Housing units, April 1, 2010	4,033
Owner-occupied housing unit rate, 2011-2015	75.1%
Median value of owner-occupied housing units, 2011-2015	$80,000
Median selected monthly owner costs -with a mortgage, 2011-2015	$974
Median selected monthly owner costs -without a mortgage, 2011-2015	$340
Median gross rent, 2011-2015	$571
Building permits, 2016	19
Families & Living Arrangements	
Households, 2011-2015	3,262
Persons per household, 2011-2015	2.71
Living in same house 1 year ago, percent of persons age 1 year+, 2011-2015	92.5%
Language other than English spoken at home, percent of persons age 5 years+, 2011-2015	1.5%
Education	
High school graduate or higher, percent of persons age 25 years+, 2011-2015	85.1%
Bachelor's degree or higher, percent of persons age 25 years+, 2011-2015	10.6%
Health	
With a disability, under age 65 years, percent, 2011-2015	15.7%
Persons without health insurance, under age 65 years, percent	▲ 15.1%
Economy	
In civilian labor force, total, percent of population age 16 years+, 2011-2015	45.4%

In civilian labor force, female, percent of population age 16 years+, 2011-2015	43.5%
Total accommodation and food services sales, 2012 ($1,000) (c)	2,089
Total health care and social assistance receipts/revenue, 2012 ($1,000) (c)	42,826
Total manufacturers shipments, 2012 ($1,000) (c)	D
Total merchant wholesaler sales, 2012 ($1,000) (c)	79,628
Total retail sales, 2012 ($1,000) (c)	32,344
Total retail sales per capita, 2012 (c)	$3,369
Transportation	
Mean travel time to work (minutes), workers age 16 years+, 2011-2015	21.3
Income & Poverty	
Median household income (in 2015 dollars), 2011-2015	$34,156
Per capita income in past 12 months (in 2015 dollars), 2011-2015	$17,576
Persons in poverty, percent	▲ 24.7%

BUSINESSES

Businesses	
Total employer establishments, 2015	118
Total employment, 2015	1,605
Total annual payroll, 2015 ($1,000)	53,444
Total employment, percent change, 2014-2015	-1.0%
Total nonemployer establishments, 2015	601
All firms, 2012	630
Men-owned firms, 2012	303
Women-owned firms, 2012	276
Minority-owned firms, 2012	105
Nonminority-owned firms, 2012	507
Veteran-owned firms, 2012	70
Nonveteran-owned firms, 2012	519

GEOGRAPHY

Geography	
Population per square mile, 2010	26.9
Land area in square miles, 2010	354.34
FIPS Code	13155

Value Notes

⚠ This geographic level of poverty and health estimates is not comparable to other geographic levels of these estimates

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info left of each row in TABLE view to learn about sampling error.

The vintage year (e.g., V2016) refers to the final year of the series (2010 thru 2016). *Different vintage years of estimates are not comparable.*

Fact Notes

- **(a)** Includes persons reporting only one race
- **(b)** Hispanics may be of any race, so also are included in applicable race categories
- **(c)** Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

Value Flags

- **-** Either no or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowes interval of an open ended distribution.
- **D** Suppressed to avoid disclosure of confidential information
- **F** Fewer than 25 firms
- **FN** Footnote on this item in place of data
- **NA** Not available
- **S** Suppressed; does not meet publication standards
- **X** Not applicable
- **Z** Value greater than zero but less than half unit of measure shown

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

3. Community Work Program

City of Ocilla FY2015 – FY2019 Community Work Program

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Cultural Resources									
Establish a county wide Historic Preservation Committee	x					1	City of Ocilla and Irwin County	Staff time	City/County
Develop a Historic Preservation Ordinance	x					1	City of Ocilla	$5,000	City
Conduct a city-wide inventory of historic resources		x				1	City of Ocilla	$7,500	DNR grant with local match
Develop a Plan to consolidate City and County Offices in the old Elementary School	x					1, 5	City of Ocilla and Irwin County	Staff Time	City/County
Complete the renovation of the Elementary School to serve as a Community Center		x				1, 5	City of Ocilla	$400,000	City / County/EDA
Develop a Historic Tourism Website as part of the Chamber Website	x					1, 2	Chamber of Commerce	$1,000	City/Chamber/ County
Develop a strategy to keep the Jeff Davis Memorial Park Open	x					1, 5	City of Ocilla/Chamber of Commerce	$45,000/year	City/County/ State

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Economic Development									
Financially support the Chamber of Commerce's activities for job retention, marketing and job training/education programs	x	x	x	x	x	2	Chamber/ City/ County	$500/year	Chamber/ City/ County
Continue to support the Chamber's website to promote Irwin County in economic development	x	x	x	x	x	2	Chamber/ City/ County	$1,000/year	Chamber/ City/ County
Design a brochure to market Greater Irwin County's economic advantages and historic tourism opportunities		x				1, 2	Chamber/ City/ County	$750	Chamber/ City/ County
Develop an inventory of available lands for commercial/industrial development			x			2	Chamber/ City/ County	$1,000	Chamber/ City/ County
Develop an inventory of available lands for residential development		x	x			2	Chamber/ City/ County	$1,000	Chamber/ City/ County
Tear down old Osceola Motel for downtown redevelopment	x					2	City	$2,000	City/Private

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Housing									
Implement current CHIP applications and apply for new/rehab housing as needed to upgrade housing supply	x	x	x	x	x	3	City	$1,000 per year plus Staff time	CHIP, City
Implement current CDBG applications and apply for new/rehab housing as needed to upgrade housing supply and its infrastructure (roads, water	x	x	x	x	x	3	City	$1,000 per year plus Staff time	CDBG, City

& sewer system)									
Renovate 5 homes	x	x	x	x	x	3	City	$1,000/ home per year plus Staff time	General funds
Revise the City Zoning Ordinance	x					1 - 5	City	$10,000 plus Staff time	City
Apply for CDBG Program to upgrade the water system to provide city neighborhoods with sufficient fire flow		x				2, 5	City	$150,000	General funds

Activity	**2015**	**2016**	**2017**	**2018**	**2019**	**Goal**	**Responsible Party**	**Estimated Cost**	**Funding Source**
Natural Resources:									
Plant 5 trees downtown every year	x	x	x	x	x	4	City	$500/year	City
Design and implement a countywide Master Drainage Plan to address issues identified in the Pre-Disaster Mitigation Plan			x	x	x	4, 5	City/County	$1,000 Staff time ($200,000)	General funds (PDM project)

Activity	**2015**	**2016**	**2017**	**2018**	**2019**	**Goal**	**Responsible Party**	**Estimated Cost**	**Funding Source**
Land Use:									
Participate in the SGRC bi-annual Assessment meetings	x		x		x	5	City, SGRC	$1,000 Staff	State, Local
Develop a countywide Green Space Program				x		4, 5	City, County, SGRC	$3,000 Staff	General funds

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Community Facilities:									
Inventory existing water, sewer and gas facilities and conditions	x	x				5	City/SGRC	$20,000	City
Extend the Water Main on Vo-Tech Drive to include all development				x		2, 5	City	$625,000	CDBG, City
Improve and Update the water main on Park Street			x			2, 5	City	$100,000	CDBG, City
Construct Water Main Loop in South Industrial Park				x		2, 5	City	$50,000	CDBG, City
Purchase two Police Vehicles	x	x				5	City	$50,000	Grants, City
Purchase two Utility Trucks	x					5	City	$25,000 each	SPLOST, City, SPLOST
Complete the TE Grant Project for Downtown	x					1	City	$500,000	GDOT, City
Construct a new City Well				x		5	City	$1.0 Million	Federal, State, City
Utilize LMIG Program to resurface City Roads	x	x	x	x	x	5	City	Staff time	State, City
Implement a grading and maintenance program for alleyways within the City of Ocilla	x	x	x	x	x	5	City	Staff time	City, County
Construct the West 2nd street and water improvements	x					5	City	$50,000	CDBG, City
Construct the TE sidewalk Hwy 32 Pedestrian safety lane	x					5	City	$500,000	TE grant
Seek funding for a countywide Early Warning Communication/Notification System		x	x			5	City/County	Staff time	City, County (PDM Project)
Install auxiliary generators for all designated evacuation and emergency shelters and community water systems				x	x	5	City/County	$100,000	City, County (PDM Project)
Install lightning warning and protection equipment at	x					5	City/County	$50,000	City, County (PDM Project)

outdoor recreational facilities countywide.									
Fund and implement the "Community Emergency Response Team (CERT)		x	x			5	City/County	$75,000	City, County (PDM Project)
Become a designated "Storm Ready Community"	x					5	City/County	$5,000, Staff time	City, County (PDM Project)
Improvements to the two City Parks as needed , siding for the Community Center and new roof for the Community House			x			5	City	$15,000	City, County, SPLOST

Irwin County FY2015 - FY2019 Community Work Program

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Cultural Resources:									
Establish a county-wide Historic Preservation Committee	x					1	City/County	$500	City, County
Develop a Historic Preservation Ordinance	x					1	City, County	$5,000	City
Conduct a county-wide inventory of historic resources		x				1	City, County	$7,500	DNR grant with local match
Develop a Historic Tourism Website as part of the Chamber Website	x					1, 2	City, County, Chamber	$1,000	City, Chamber, County

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Economic Development:									
Design a marketing program and a brochure to market Greater Irwin County's economic advantages and historic tourism opportunities	x					2	Chamber/ City/ County	$1,000 Staff	Chamber/ City/ County
Develop an inventory of available lands for industry		x				2	Chamber/ City/ County	Staff	Chamber/ City/ County
Develop an inventory of available lands for residential development		x				2	Chamber/ City/ County	Staff	Chamber/ City/ County
Design a marketing program to promote agricultural products from local Farms	x					2	Chamber/ City/ County	Staff	Chamber/ City/ County
Design an agri-tourism program to support local agricultural businesses			x			2	Chamber/ City/ County	Staff	Chamber/ City/ County

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Housing:									
Implement a housing survey for housing conditions				x		3	County	$4,500	County
Implement current CHIP applications and apply for new/rehab housing as needed to upgrade housing supply	x					3	County	$300,000	CHIP, County

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Natural Resources:									
Develop and maintain an inventory for Environmentally Sensitive areas in the county				x		4	County	$4,500	County
Seek funding to develop and implement a countywide Master Drainage Plan to address issues identified in the Pre-Disaster (PDM) Plan			x	x	x	4, 5	City/ County	$1,000 Staff	General funds (PDM Project)

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Land Use:									
Develop a county-wide Green Space Program				x		4	City, County, , SGRC	$3,000 Staff	General funds

Activity	2015	2016	2017	2018	2019	Goal	Responsible Party	Estimated Cost	Funding Source
Community Facilities & Services:									
Purchase 8 AED's for County facilities	x					5	County	$300/AED	County
Reconstruct 2 Franks Road Bridges	x					5	County, GDOT	TBD	GDOT, FHWA
Upgrade 1 Sheriff's Dept vehicles per year	x	x	x	x	x	5	County	$21,000 per year	County, USDA
Seek funding for a countywide Early Warning Communication/Notification System		x	x			5	City/County	Staff time	City, County (PDM Project)
Install auxiliary generators for all designated evacuation and emergency shelters and community water systems			x			5	City/County	$100,000	City, County (PDM Project)
Install lightning warning and protection equipment at outdoor recreational facilities countywide.		x				5	City/County	$50,000	City, County (PDM Project)
Fund and implement the "Community Emergency Response Team (CERT)			x			5	City/County	$75,000	City, County (PDM Project)
Become a designated "Storm Ready Community"	x					5	City/County	$5,000, Staff time	City, County (PDM Project)

Department of Revenue

Return

GEORGIA DEPARTMENT OF REVENUE Local Government Services Division County Digest Section	2016 TAX DIGEST CONSOLIDATED SUMMARY

County:IRWIN County #:077 Tax District:IRWIN COUNTY

Dist #: 00 Assessment %: 040 Tot Parcels:6319

RESIDENTIAL

Code	Count	Acres	40% Value
R1	2,592		59,579,556
R3	1,810	535.46	4,695,861
R4	2,050	7,447.73	8,516,159
R5	1	3.07	4,912
R6	2,938		7,103,949
R7			
R9			
RA			
RB	4		23,011
RF			
RI			
RZ			

RESIDENTIAL TRANSITIONAL

Code	Count	Acres	40% Value
T1			
T3			
T4			

HISTORIC

Code	Count	Acres	40% Value
H1			
H3			

AGRICULTURAL

Code	Count	Acres	40% Value
A1	552		13,815,178
A3			
A4	107	594.04	560,923
A5	429	22,662.81	10,480,686
A6	921		4,199,219
A7			
A9			
AA			
AB			
AF			
AI			
AZ			

PREFERENTIAL

Code	Count	Acres	40% Value

UTILITY

Code	Count	Acres	40% Value
U1			
U2	20		21,972,452
U3	1		
U4	15		
U5	1		
U7			
U9			
UA			
UB			
UF			
UZ			

EXEMPT PROPERTY

Code	Count	40% Value
E0		
E1	86	5,968,416
E2	94	3,269,801
E3	6	116,183
E4	13	23,419
E5	6	1,167,677
E6	13	6,713,154
E7		
E8		
E9	4	160,558
TOTAL	222	17,419,208

HOMESTEAD AND PROPERTY EXEMPTIONS

Code	Count	M&O	Bond
S1	1,550	3,100,000	
SC	40	80,000	
S2			
S3	2	4,000	
S4	280	1,120,000	
S5	30	911,353	
SD			
SS			
SE			
SG			

P3			
P4	2	30	22,000
P5	35	4,926.32	1,737,361
P6	7		53,485
P7			
P9			

CONSERVATION USE

Code	Count	Acres	40% Value
V3	6	247.77	89,885
V4	275	4,539.86	3,159,085
V5	1,347	167,886.34	107,364,543
V6			

BROWNFIELD PROPERTY

Code	Count	Acres	40% Value
B1			
B3			
B4			
B5			
B6			

FOREST LAND CONSERVATION USE

Code	Count	Acres	40% Value
J3			
J4			
J5	32	19,911.66	5,627,555
J9			

FLPA FAIR MARKET ASSMT

Code	Count	Acres	40% Value
F3			
F4			
F5	32	19,911.66	5,668,584
F9			
Total	32	19,911.66	5,668,584

ENVIRONMENTALLY SENSITIVE

Code	Count	Acres	40% Value
W3			
W4			
W5			

COMMERCIAL

Code	Count	Acres	40% Value
C1	207		7,337,635
C3	171	88.04	1,195,120
C4	57	299.07	627,533
C5			
C7			
C9			
CA	1		55,000
CB			
CF	143		7,283,585
CI	73		3,341,011
CP	11		3,955,703
CZ			

INDUSTRIAL

Code	Count	Acres	40% Value
I1	17		8,776,947
I3			
I4	17	155.98	390,585
I5	3	151.63	249,814

S6			
S7			
S8			
S9			
SF	16	8,103,797	
SA	37	453,214	
SB			
SP	12		
SH			
ST			
SV	1,628	67,996,140	
SJ	32	2,163,628	
SW			
SX			
SN	77		

DO NOT USE CODES L1-L9 ON STATE SHEET

L1			
L2			
L3			
L4			
L5			
L6			
L7			
L8			
L9			
TOTAL	3,704	83,932,132	

SUMMARY

Code	Count	Acres	40% Value
Residential	9,395	7,986.26	79,923,448
Residential Transitional			
Historical			
Agricultural	2,009	23,256.85	29,056,006
Preferential	44	4,956.32	1,812,846
Conservation Use	1,628	172,673.97	110,613,513
Brownfield Property			
Forest Land Cons Use	32	19,911.66	5,627,555
Environmentally Sensitive			
Commercial	663	387.11	23,795,587
Industrial	54	307.61	14,633,324
Utility	37		21,972,452
Motor Vehicle	6,113		11,008,570
Mobile Home	771		4,831,876
Timber 100%	102	10,061	2,928,132
Heavy Equipment			
Gross Digest	20,848	239,540.78	306,203,309
Exemptions Bond			
Net Bond Digest			306,203,309
Gross Digest	20,848	239,540.78	306,203,309
Exemptions-M&O			83,932,132
Net M&O Digest			222,271,177

I7		
I9		
IA		
IB		
IF	8	904,405
II	4	163,479
IP	5	4,148,094
IZ		

TAX LEVIED

TYPE	ASSESSED VALUE	MILLAGE	TAX
M & O	222,271,177	.000	0.00
BOND	306,203,309	.000	0.00

Return

Department of Revenue

Return

GEORGIA DEPARTMENT OF REVENUE Local Government Services Division County Digest Section	2016 TAX DIGEST CONSOLIDATED SUMMARY

County:IRWIN County #:077 Tax District:OCILLA

Dist #: 05 Assessment %: 040 Tot Parcels:1551

RESIDENTIAL

Code	Count	Acres	40% Value
R1	868		16,058,033
R3	1,246	90.95	2,899,273
R4	20	45.13	60,164
R5			
R6	750		839,512
R7			
R9			
RA			
RB			
RF			
RI			
RZ			

RESIDENTIAL TRANSITIONAL

Code	Count	Acres	40% Value
T1			
T3			
T4			

HISTORIC

Code	Count	Acres	40% Value
H1			
H3			

AGRICULTURAL

Code	Count	Acres	40% Value
A1			
A3			
A4			
A5	1	40.65	33,408
A6	1		786
A7			
A9			
AA			
AB			
AF			
AI			
AZ			

PREFERENTIAL

Code	Count	Acres	40% Value

UTILITY

Code	Count	Acres	40% Value
U1			
U2	6		2,548,960
U3	1		
U4	4		
U5			
U7			
U9			
UA			
UB			
UF			
UZ			

EXEMPT PROPERTY

Code	Count	40% Value
E0		
E1	41	4,419,922
E2	36	1,706,783
E3	3	85,687
E4		
E5	6	1,167,677
E6	5	6,312,727
E7		
E8		
E9	2	22,360
TOTAL	93	13,715,156

HOMESTEAD AND PROPERTY EXEMPTIONS

Code	Count	M&O	Bond
S1			
SC	6		
S2			
S3			
S4			
S5			
SD			
SS			
SE			
SG			

P3			
P4			
P5	1	33.61	9,892
P6			
P7			
P9			

CONSERVATION USE

Code	Count	Acres	40% Value
V3			
V4			
V5			
V6			

BROWNFIELD PROPERTY

Code	Count	Acres	40% Value
B1			
B3			
B4			
B5			
B6			

FOREST LAND CONSERVATION USE

Code	Count	Acres	40% Value
J3			
J4			
J5			
J9			

FLPA FAIR MARKET ASSMT

Code	Count	Acres	40% Value
F3			
F4			
F5			
F9			
Total			

ENVIRONMENTALLY SENSITIVE

Code	Count	Acres	40% Value
W3			
W4			
W5			

COMMERCIAL

Code	Count	Acres	40% Value
C1	147		5,324,229
C3	148	71.99	1,123,173
C4	18	49.94	294,471
C5			
C7			
C9			
CA			
CB			
CF	92		4,949,530
CI	58		2,682,046
CP	7		2,459,784
CZ			

INDUSTRIAL

Code	Count	Acres	40% Value
I1	13		7,665,658
I3			
S6			
S7			
S8			
S9			
SF	10	6,199,982	6,199,982
SA	1	2,473	2,473
SB			
SP			
SH			
ST			
SV			
SJ			
SW			
SX			
SN			

DO NOT USE CODES L1-L9 ON STATE SHEET

L1			
L2			
L3			
L4			
L5	6	147,963	147,963
L6			
L7			
L8			
L9			
TOTAL	23	6,350,418	6,350,418

SUMMARY

Code	Count	Acres	40% Value
Residential	2,884	136.08	19,856,982
Residential Transitional			
Historical			
Agricultural	2	40.65	34,194
Preferential	1	33.61	9,892
Conservation Use			
Brownfield Property			
Forest Land Cons Use			
Environmentally Sensitive			
Commercial	470	121.93	16,833,233
Industrial	42	193.81	12,269,247
Utility	11		2,548,960
Motor Vehicle	1,179		2,213,590
Mobile Home	112		580,524
Timber 100%			
Heavy Equipment			
Gross Digest	4,701	526.08	54,346,622
Exemptions Bond			6,350,418
Net Bond Digest			47,996,204
Gross Digest	4,701	526.08	54,346,622
Exemptions-M&O			6,350,418
Net M&O Digest			47,996,204

I4	14	120.46	314,105
I5	2	73.35	184,630
I7			
I9			
IA			
IB			
IF	6		201,177
II	4		163,479
IP	3		3,740,198
IZ			

TAX LEVIED

TYPE	ASSESSED VALUE	MILLAGE	TAX
M & O	47,996,204	17.350	832,734.14
BOND	47,996,204	.950	45,596.39

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Appendix C

GEORGIA FORESTRY COMMISSION

Community Wildfire Protection Plan

An Action Plan for Wildfire Mitigation and Conservation of Natural Resources

Irwin County, Georgia

A Program of the Georgia Forestry Commission
with support from the U.S. Forest Service

+

JAN 2, 2012

Prepared by;
Mike Clark, Chief Ranger Irwin County
Will Fell CWPP Specialist
Georgia Forestry Commission
703 GA Hwy 32 East
Ocilla, GA 31774

The following report is a collaborative effort among various entities; the representatives listed below comprise the core decision-making team responsible for this report and mutually agree on the plan's contents:

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PLAN CONTENTS

Preface

The extreme weather conditions that are conducive to wildfire disasters (usually a combination of extended drought, low relative humidity and high winds) can occur in this area of Georgia as infrequently as every 10-15 years. This is not a regular event, but as the number of homes that have been built in or adjacent to forested or wildland areas increases, it can turn a wildfire under these weather conditions into a major disaster. Wildfires move fast and can quickly overwhelm the resources of even the best equipped fire department. Advance planning can save lives, homes and businesses.

This Community Wildfire Protection Plan (CWPP) includes a locally assessed evaluation of the wildland urban interface areas of the county, looking at the critical issues regarding access to these areas, risk to properties from general issues such as building characteristics and “fire wise” practices and response from local fire fighting resources. It further incorporates a locally devised action plan to mitigate these risks and hazards though planning, education and other avenues that may become available to address the increasing threat of wildland fire. The CWPP does not obligate the county financially in any way, but instead lays a foundation for improved emergency response if and when grant funding is available to the county.

The Plan is provided at no cost to the county and can be very important for county applications for hazard mitigation grant funds through the National Fire Plan, FEMA mitigation grants and Homeland Security. Under the Healthy Forest Restoration Act (HFRA) of 2003, communities (counties) that seek grants form the federal government for hazardous fuels reduction work are required to prepare a Community Wildfire Protection Plan.

This plan will:

- Enhance public safety
- Raise public awareness of wildfire hazards and risks
- Educate homeowners on how to reduce home ignitability
- Build and improve collaboration at multiple levels

The public does not have to fall victim to this type of disaster. Homes (and communities) can be designed, built and maintained to withstand a wildfire even in the absence of fire equipment and firefighters on the scene. It takes planning and commitment at the local level before the wildfire disaster occurs and that is what the Community Wildfire Protection Plan is all about.

I. OBJECTIVES

The mission of the following report is to set clear priorities for the implementation of wildfire mitigation in Irwin County. The plan includes prioritized recommendations for the appropriate types and methods of fuel reduction and structure ignitability reduction that will protect this community and its essential infrastructure. It also includes a plan for wildfire suppression. Specifically, the plan includes community-centered actions that will:

- Educate citizens on wildfire, its risks, and ways to protect lives and properties,
- Support fire rescue and suppression entities,
- Focus on collaborative decision-making and citizen participation,
- Develop and implement effective mitigation strategies, and
- Develop and implement effective community ordinances and codes.

II. COMMUNITY COLLABORATION

The core team convened on May 16th, 2011 to assess risks and develop the Community Wildfire Protection Plan. The group is comprised of representatives from local government, local fire authorities, and the state agency responsible for forest management. Below are the groups included in the task force:

Irwin County Board of Commissioners
Irwin County EMA
Irwin Co Volunteer Fire Departments.
Ocilla Fire Department
Georgia Forestry Commission

It was decided to conduct community assessments on high risk communities within the individual fire districts in the county. The various fire departments in the county assessed their districts and reconvened on July 28th, 2011 for the purpose of completing the following:

Risk Assessment	Assessed wildfire hazard risks and prioritized mitigation actions.
Fuels Reduction	Identified strategies for coordinating fuels treatment projects.
Structure Ignitability	Identified strategies for reducing the ignitability of structures within the Wildland interface.
Emergency Management	Forged relationships among local government and fire districts and developed/refined a pre-suppression plan.
Education and Outreach	Developed strategies for increasing citizen awareness and action and to conduct homeowner and community leader workshops.

III. COMMUNITY BACKGROUND AND EXISTING SITUATION

Background

Irwin County, in central Georgia, is the state's forty-first county, created in 1818 from land acquired from Creek Indians in 1814 by the Treaty of Fort Jackson. The county, one of seven created by the state legislature in 1818, once encompassed much more territory. Counties carved from it were Lowndes and Thomas (1825), Worth (1853), Coffee (1854), Berrien (1856), Wilcox (1857), Tift and Turner (1905), and Ben Hill (1906). It was named for Jared Irwin, a governor of Georgia most famous for rescinding the fraudulent Yazoo Act.

Until the Indian treaties were signed, periodic conflict occurred between the whites and Indians. The county was divided into sixteen land districts, each composed of several hundred lots, in 1818. There were some settlers in the area, most of them from other parts of the South, even before the county was formed. Much of the land was virgin pine forest. Many of the original settlers lived first by subsistence farming and hunting and moved later into cattle ranching after establishing their homesteads. Eventually, settlers produced cotton and fruit, as well as cattle, for the market.

The first county seat was developed on a location designated by the state legislature and named Irwinville. It was the seat of government from 1831 until 1907, when the county's voters elected to change the location to the bustling town of Ocilla, ten miles southeast of Irwinville. Ocilla, founded around 1880 and incorporated in 1897, nearly tripled in population soon after it was connected by railroad to Fitzgerald and incorporated in 1897. Today, Ocilla is the only incorporated city in Irwin County. (Irwinville was incorporated from 1857 to 1995.)

From 1820 to 1822 the county's court hearings were held at the home of resident David Williams, and from 1822 through 1839 they were held in a schoolhouse on the property of a Scots settler, Murdock McDuffie. The first official courthouse was built in Irwinville in 1839 and was followed in 1854 and 1883 by newer buildings. It is believed that the business of the county was carried on in these buildings, even after the county seat was relocated, until the current courthouse (the county's fourth official one) was completed in 1910. Major renovations were made to it in 1972.

The county's most famous incident occurred during the Civil War (1861-65). Confederate president Jefferson Davis was captured a mile north of Irwinville, by Union forces, in 1865. The spot where he was surrounded is marked in the Jefferson Davis Memorial Historic Site, a thirteen-acre park that features a museum, hiking trail, and picnic facilities.

Irwin County also has an important place in the history of shape-note music. It is the site of the first documented shape-note singing convention in Georgia, the South Georgia Singing Convention, which was founded in 1875 by William Jackson Royal.

Other communities in the county are Abba, Holt, Lax, Mystic (incorporated from 1903 to 1995), Osierfield (incorporated from 1912 to 1995), and Wray.

According to the 2010 U.S. census, the population of Irwin County is 9,538, a decrease from the 2000 population of 9,931.

Elizabeth B. Cooksey, Savannah, Courtesy New Georgia Encyclopedia

Existing Situation

Irwin County located in south central Georgia, despite being largely an agricultural area is still almost 48% forested. There are still significant stands of unbroken woodland in the county, particularly along the Alapaha River which spans the western half of the county. Ocilla the county seat is by far the largest population center, but there are many homes and small communities scattered throughout the county. The risks and hazards from the wildland urban interface are fairly general throughout the county even on the edges of the incorporated cities.

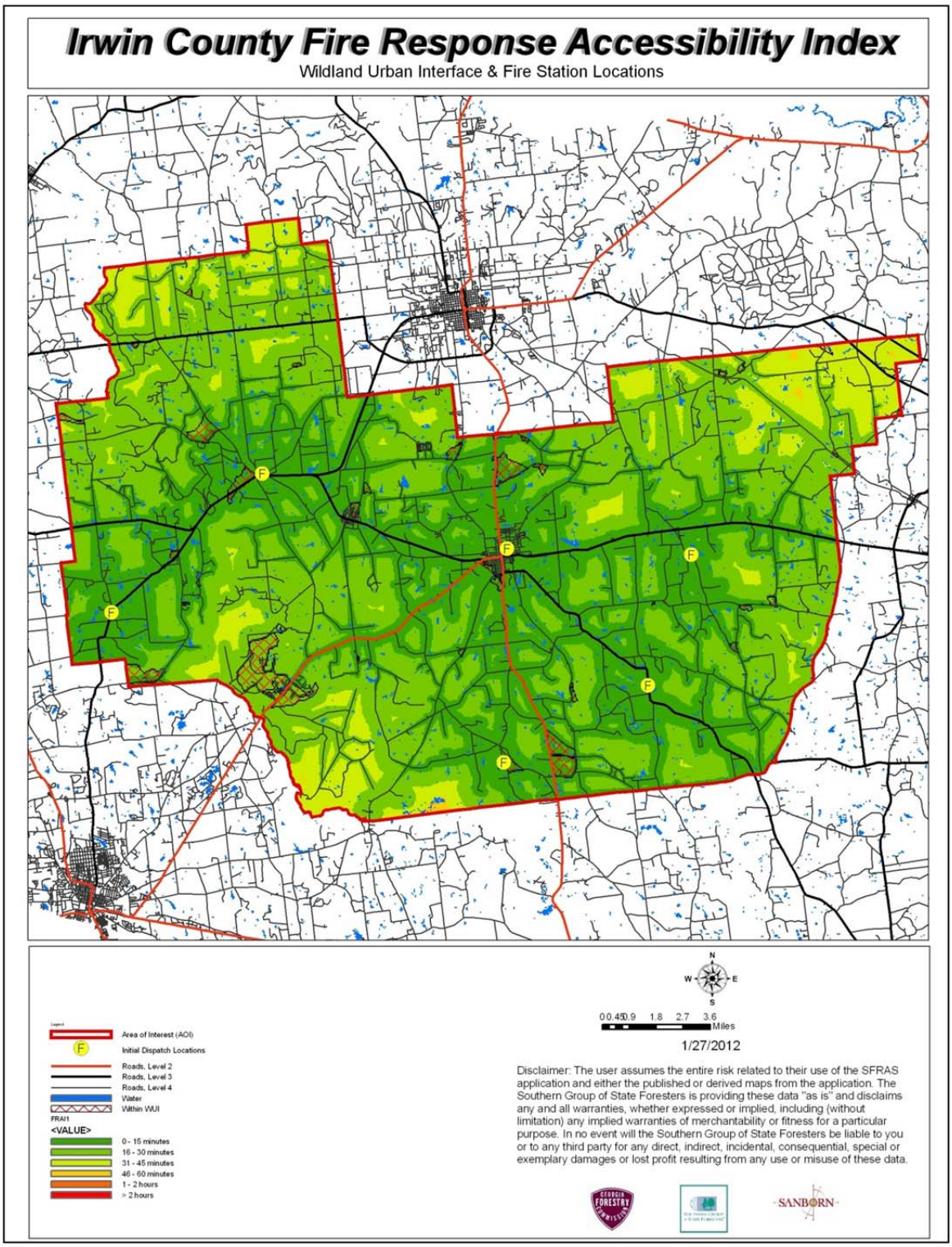
Irwin County is protected by the Ocilla Fire Department with a full time station in Ocilla along with five volunteer departments located throughout the county. The Georgia Forestry Commission maintains a county protection unit located three miles east of Ocilla on Hwy 32 to respond to wildfires throughout the county. The cities of Ocilla and Irwinville are serviced by pressurized water systems with hydrants available.

Over the past 54 years, Irwin County has averaged 48 reported wildland fires per year, burning an average of 229 acres per year. Using more recent figures over the past 20 years, this number has increased slightly to an average of 51 fires per year burning on average 159 acres annually. The occurrence of these fires during this later period shows a slight peak during the winter months while for the most part the number of fires remains fairly steady year round.

Over the past 20 years, the leading causes of these fires, was debris burning causing 53% of the fires and 62% of the acres burned. Over the past six years records show that over 36% of the debris fires originated from residential burning.

Georgia Forestry Commission Wildfire Records show that in the past eight years, damage to non-timber property by wildfire in Irwin County resulted in estimated losses of just over $50,000, a relatively good record compared to most counties in south Georgia. According to reports during this period seven homes have been directly or indirectly threatened by these fires.

IV. COMMUNITY BASE MAP



V. COMMUNITY WILDFIRE RISK ASSESSMENT

The Wildland-Urban Interface

There are many definitions of the Wildland-Urban Interface (WUI), however from a fire management perspective it is commonly defined as an area where structures and other human development meet or intermingles with undeveloped wildland or vegetative fuels. As fire is dependent on a certain set of conditions, the National Wildfire Coordinating Group has defined the wildland-urban interface as a set of conditions that exists in or near areas of wildland fuels, regardless of ownership. This set of conditions includes type of vegetation, building construction, accessibility, lot size, topography and other factors such as weather and humidity. When these conditions are present in certain combinations, they make some communities more vulnerable to wildfire damage than others. This "set of conditions" method is perhaps the best way to define wildland-urban interface areas when planning for wildfire prevention, mitigation, and protection activities.

There are three major categories of wildland-urban interface. Depending on the set of conditions present, any of these areas may be at risk from wildfire. A wildfire risk assessment can determine the level of risk.

1. "Boundary" wildland-urban interface is characterized by areas of development where homes, especially new subdivisions, press against public and private wildlands, such as private or commercial forest land or public forests or parks. This is the classic type of wildland-urban interface, with a clearly defined boundary between the suburban fringe and the rural countryside.

2. "Intermix" wildland-urban interface areas are places where improved property and/or structures are scattered and interspersed in wildland areas. These may be isolated rural homes or an area that is just beginning to go through the transition from rural to urban land use.

3. "Island" wildland-urban interface, also called occluded interface, are areas of wildland within predominately urban or suburban areas. As cities or subdivisions grow, islands of undeveloped land may remain, creating remnant forests. Sometimes these remnants exist as parks, or as land that cannot be developed due to site limitations, such as wetlands.

(courtesy *Fire Ecology and Wildfire Mitigation in Florida* 2004)

Wildland Urban Interface Hazards

Firefighters in the wildland urban interface may encounter hazards other than the fire itself, such as hazardous materials, utility lines and poor access.

Hazardous Materials

- Common chemicals used around the home may be a direct hazard to firefighters from a flammability, explosion potential and/or vapors or off gassing. Such chemicals include paint, varnish and other flammable liquids, fertilizer, pesticides, cleansers, aerosol cans, fireworks, batteries and ammunition. In addition, some common household products such as plastics may give off very toxic fumes when they burn. Stay out of smoke form burning structures and any unknown sources such as trash piles.

Illicit Activities

- Marijuana plantations or drug production labs may be found in the wildland urban interface areas. Extremely hazardous materials such as propane tanks and flammable/toxic chemicals may be encountered.

Propane Tanks

- Both large (household size) and small (gas grill size) liquefied propane gas (LPG) tanks can present hazards to firefighters, including explosion. See the “LPG Tank Hazards” discussion for details

Utility Lines

- Utility Lines may be located above and below ground and may be cut or damaged by tools or equipment. Don’t spray water on utility lines or boxes.

Septic Tanks and Fields

- Below ground structures may not be readily apparent and may not support the weight of engines or other equipment.

New Construction Materials

- Many new construction materials have comparatively low melting points and may “off-gas” extremely hazardous vapors. Plastic decking materials that resemble wood are becoming more common and may begin softening and losing structural strength at 180 degrees F, though they normally do not sustain combustion once direct flame is removed. However if they continue to burn they exhibit the characteristics of flammable liquids.

Pets and Livestock

- Pets and livestock may be left when residents evacuate and will likely be highly stressed making them more inclined to bite and kick. Firefighters should not put themselves at risk to rescue pets or livestock.

Evacuation Occurring

- Firefighters may be taking structural protect actions while evacuations of residents are occurring. Be very cautious of people driving erratically. Distraught residents may refuse to leave their property and firefighters may need to disengage from fighting fire to contact law enforcement officers for assistance. In most jurisdictions firefighters do not have the authority to force evacuations. Firefighters should not put themselves at risk trying to protect someone who will not evacuate!

Limited Access

- Narrow one-lane roads with no turn around room, inadequate or poorly maintained bridges and culverts are frequently found in wildland urban interface areas. Access should be sized up and an evacuation plan for all emergency personnel should be developed.

The wildland fire risk assessments conducted in 2011 by the Irwin County Fire Departments returned a number of communities in the high range. The risk assessment instrument used to evaluate wildfire hazards to Irwin County's WUI was the Hazard and Wildfire Risk Assessment Checklist. The instrument takes into consideration accessibility, vegetation (based on fuel models), roofing assembly, building construction, and availability of fire protection resources, placement of gas and electric utilities, and additional rating factors. The following factors contributed to the wildfire hazard scores for Irwin County:

- Unpaved roads and private driveways
- Narrow roads without drivable shoulders
- Lack of uniform address signs
- Minimal defensible space around structures
- Homes with wooden siding
- Unmarked septic tanks in yards
- Lack of pressurized or non-pressurized water systems available
- Large, adjacent areas of forest or wildlands
- Heavy fuel buildup in adjacent wildlands
- Undeveloped lots comprising half the total lots in many rural communities.
- High occurrence of wildfires in the several locations
- Lack of homeowner or community organizations

Summary of Irwin County Assessments

Community/area	Community Access	Surrounding Vegetation	Bldg Construction	Fire Protection	Utilities	Add. Factors	Score	Hazard Rating
Ocilla								
Greenbrier/Aron St.	14	35	20	2	6	12	71	Moderate
Waterloo	10	20	15	18	5	15	83	High
Irwinville								
Pleasure Lake	18	35	17	15	5	27	117	Very High
Tucker/Lax	15	20	20	20	5	19	99	High
Riverbend	11	20	20	17	5	11	84	High
Holt	12	20	15	20	5	12	84	High

Southern Fire Risk Assessment System Maps.

The attached maps were generated from a computerized Geographical Information System (GIS) program developed by the Sanborn Company under contract from the Southern Group of State Foresters to model the various risks to life and property within the southeastern US. The program is known as the Southern Fire Risk Assessment System (SFRAS). It utilizes multiple layers of data developed cooperatively from the various states and the US Forest Service under the Southern Wildfire Risk Assessment (SWRA)

Wildland Urban Interface maps are developed using data from the SILVIS Lab at the University of Wisconsin at Madison. WUI is composed of both interface and intermix communities. In both interface and intermix communities, housing must meet or exceed a minimum density of one structure per 40 acres. Intermix communities are places where housing and vegetation intermingle. In intermix, wildland vegetation is continuous, more than 50 percent vegetation, in areas with more than one house per 40 acres. Interface communities are areas with housing in the vicinity of continuous vegetation. Interface areas have more than one house per 40 acres, have less than 50 percent vegetation, and are within 1.5 miles of an area (made up of one or more contiguous Census blocks) over 1,325 acres that is more than 75 percent vegetated. The minimum size limit ensures that areas surrounding small urban parks are not classified as interface WUI.

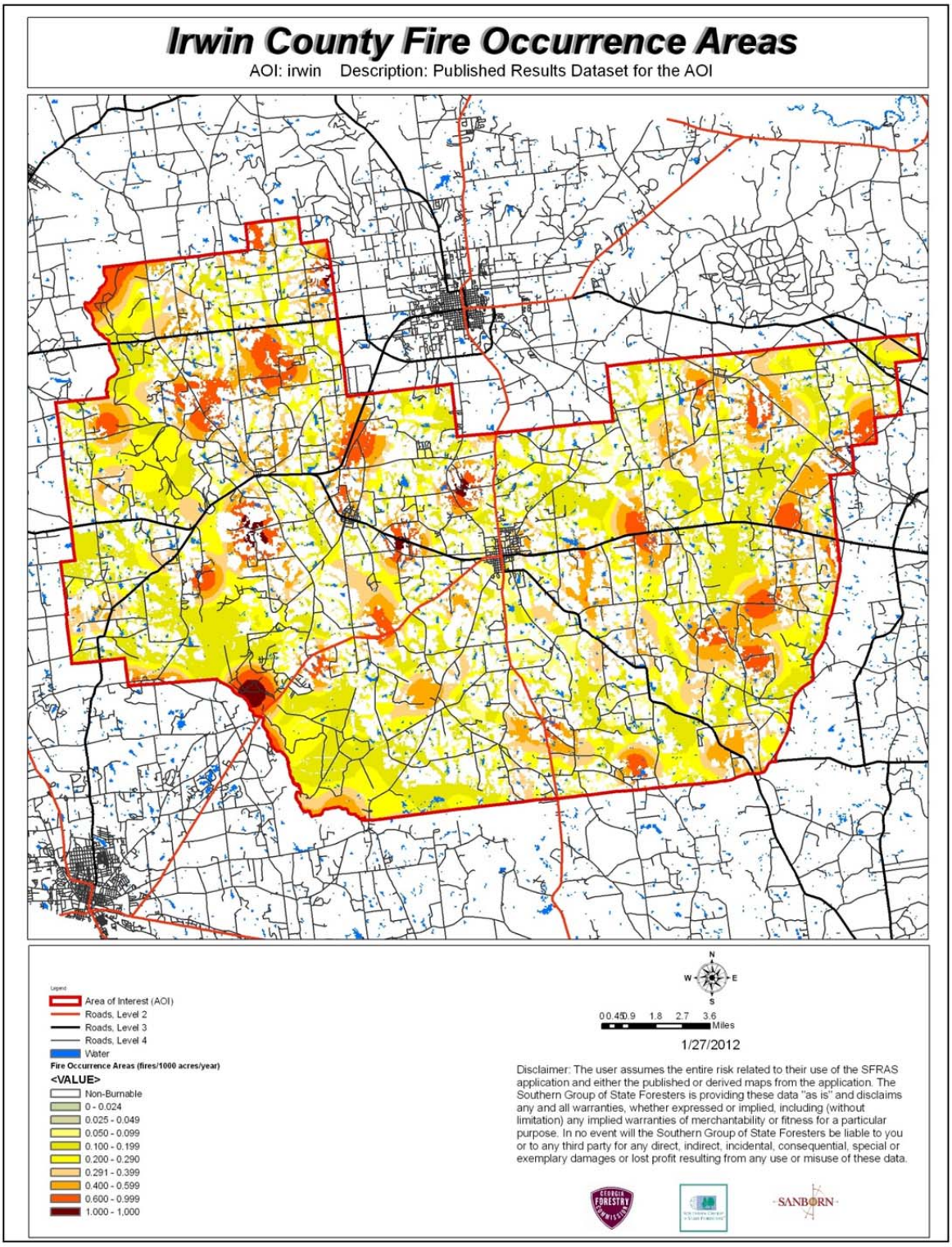
Fire Response Accessibility Index is a relative measure of how long it would take initial attack resources to drive from their station to various areas of the county. This index is derived from assigning average speeds to the various road classes in the county. For the purpose of this analysis the following speeds were assigned: 55 mph for level 1 roads, primarily interstates and four lane open highways, 50 mph for level 2 roads, primarily state and federal highways, 40 mph for level 3 roads, primarily paved two lanes collector roads and 25 mph for level 4 roads, mainly city streets and rural roads, paved and unpaved. For areas away from roads a travel speed of 3 mph is assigned as it is assumed travel will be by foot or extremely slow moving equipment.

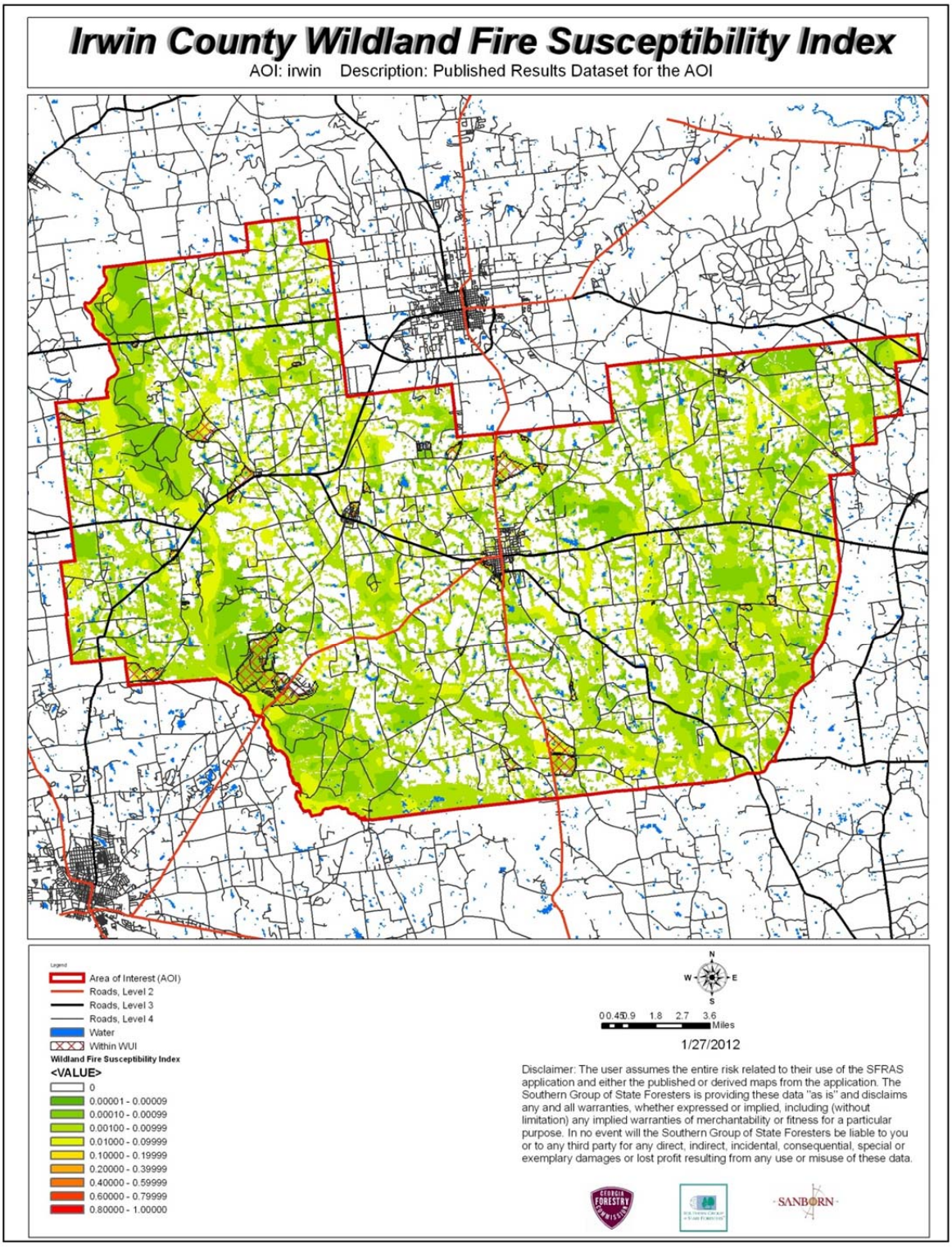
Fire Occurrence Areas maps use data from wildfire reports over the period from 1997-2002. The fire occurrence rates mapped are the probability of the number of fires occurring per 1000 acres per year base on this historic information.

Wildland Fire Susceptibility maps show an index value between 0 and 1 and are developed by a mathematical calculation process for determining the probability of an acre burning and the expected final fire size. Many layers of data are used in developing this calculation including historic fire data, wildland fuels and rate of spread, canopy attributes (closure, height and density), weather influences, topography, soils and fire suppression effectiveness.

Level of Concern maps are a complex calculation using the Wildland Fire Susceptibility Index (previously described) and the Fire Effects Index which is calculated using data layers of transportation and infrastructure, urban interface and timber values along with suppression difficulty ratings. This provides an output categorizing the expected levels of concern from low to high.

VI. COMMUNITY HAZARDS MAPS




Irwin County Wildland Fire Susceptibility Index
AOI: irwin Description: Published Results Dataset for the AOI
Legend
Area of Interest (AOI)
Roads, Level 2
Roads, Level 3
Roads, Level 4
Water
Within WUI
Wildland Fire Susceptibility Index
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0.00010 - 0.00099
0.00100 - 0.00999
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0.40000 - 0.59999
0.60000 - 0.79999
0.80000 - 1.00000
N
W
E
S
0 0.45 0.9 1.8 2.7 3.6
Miles
1/27/2012
Disclaimer: The user assumes the entire risk related to their use of the SFRAS application and either the published or derived maps from the application. The Southern Group of State Foresters is providing these data "as is" and disclaims any and all warranties, whether expressed or implied, including (without limitation) any implied warranties of merchantability or fitness for a particular purpose. In no event will the Southern Group of State Foresters be liable to you or to any third party for any direct, indirect, incidental, consequential, special or exemplary damages or lost profit resulting from any use or misuse of these data.
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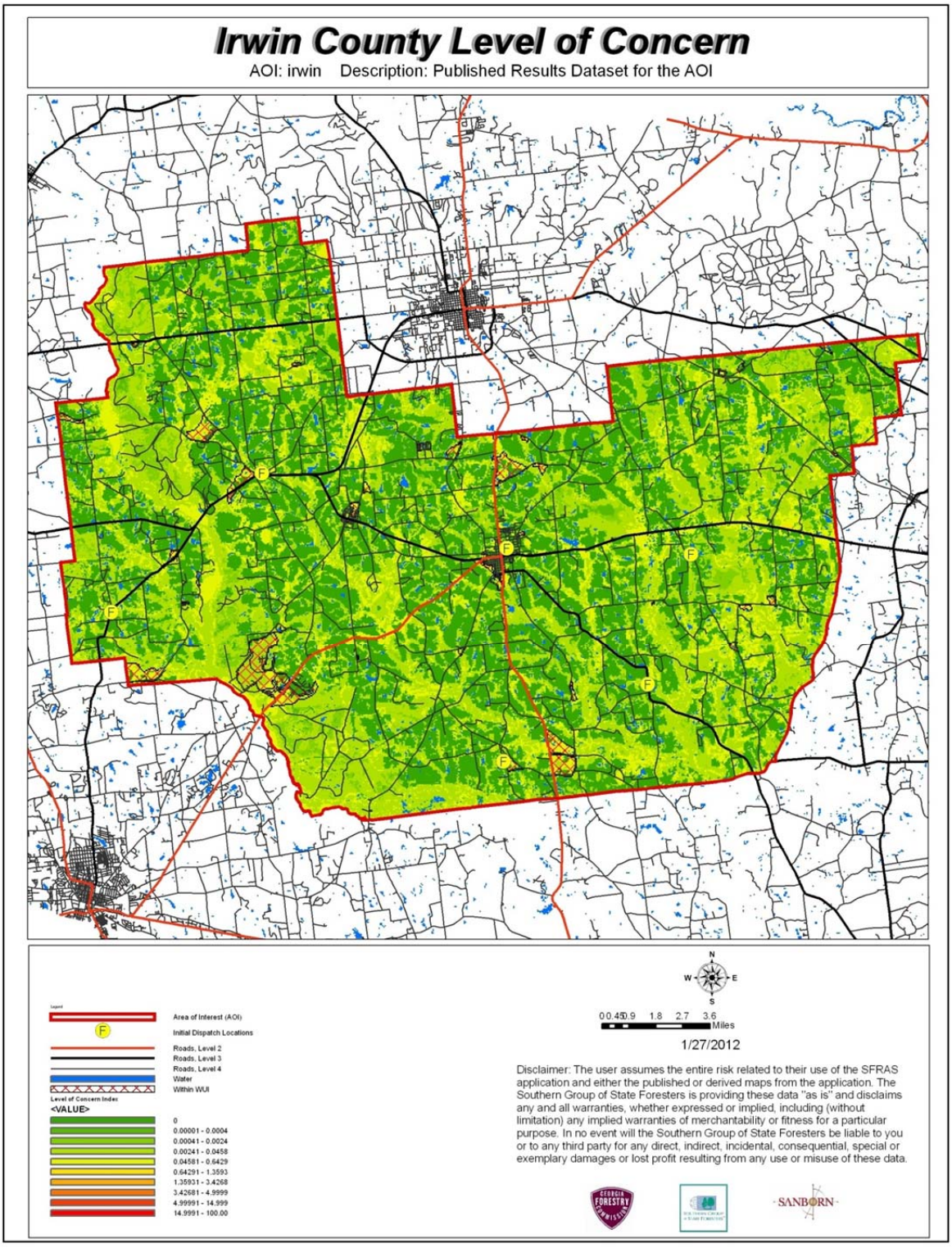
Irwin County Level of Concern
AOI: irwin Description: Published Results Dataset for the AOI
Area of Interest (AOI)
Initial Dispatch Locations
Roads, Level 2
Roads, Level 3
Roads, Level 4
Water
Within WUI
Level of Concern Index
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0.04581 - 0.6429
0.64291 - 1.3593
1.35931 - 3.4268
3.42681 - 4.9999
4.99991 - 14.999
14.9991 - 100.00
N
W
E
S
0 0.45 0.9 1.8 2.7 3.6
Miles
1/27/2012
Disclaimer: The user assumes the entire risk related to their use of the SFRAS application and either the published or derived maps from the application. The Southern Group of State Foresters is providing these data "as is" and disclaims any and all warranties, whether expressed or implied, including (without limitation) any implied warranties of merchantability or fitness for a particular purpose. In no event will the Southern Group of State Foresters be liable to you or to any third party for any direct, indirect, incidental, consequential, special or exemplary damages or lost profit resulting from any use or misuse of these data.
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VII. PRIORITIZED MITIGATION RECOMMENDATIONS

Executive Summary

As South Georgia continues to see increased growth from other areas seeking less crowded and warmer climes, new development will occur more frequently on forest and wildland areas. Irwin County will have an opportunity to significantly influence the wildland fire safety of new developments. It is important that new development be planned and constructed to provide for public safety in the event of a wildland fire emergency.

Over the past 20 years, much has been learned about how and why homes burn during wildland fire emergencies. Perhaps most importantly, case histories and research have shown that even in the most severe circumstances, wildland fire disasters can be avoided. Homes can be designed, built and maintained to withstand a wildfire even in the absence of fire services on the scene. The national Firewise Communities program is a national awareness initiative to help people understand that they don't have to be victims in a wildfire emergency. The National Fire Protection Association has produced two standards for reference: NFPA 1144 Standard for Reducing Structure Ignition Hazards from Wildland Fire. 2008 Edition and NFPA 1141 Standard for Fire Protection Infrastructure for Land Development in Suburban and Rural Areas.

When new developments are built in the Wildland/Urban Interface, a number of public safety challenges may be created for the local fire services: (1) the water supply in the immediate areas may be inadequate for fire suppression; (2) if the Development is in an outlying area, there may be a longer response time for emergency services; (3) in a wildfire emergency, the access road(s) may need to simultaneously support evacuation of residents and the arrival of emergency vehicles; and (4) when wildland fire disasters strike, many structures may be involved simultaneously, quickly exceeding the capability of even the best equipped fire departments.

The following recommendations were developed by the Irwin County CWPP Core team as a result of surveying and assessing fuels and structures and by conducting meetings and interviews with county and city officials. A priority order was determined based on which mitigation projects would best reduce the hazard of wildfire in the assessment area.

Proposed Community Hazard and Structural Ignitability Reduction Priorities

Primary Protection for Community and Its Essential Infrastructure		
Treatment Area	Treatment Types	Treatment Method(s)
1. All Structures	Create minimum of 30-feet of defensible space**	Trim shrubs and vines to 30 feet from structures, trim overhanging limbs, replace flammable plants near homes with less flammable varieties, remove vegetation around chimneys.
2. Applicable Structures	Reduce structural ignitability**	Clean flammable vegetative material from roofs and gutters, store firewood appropriately, install skirting around raised structures, store water hoses for ready access, and replace pine straw and mulch around plantings with less flammable landscaping materials.
3. Driveway Access	Right of Way Clearance	Maintain vertical and horizontal clearance for emergency equipment. See that adequate lengths of culverts are installed to allow emergency vehicle access.
4. Road Access	Identify needed road improvements	As roads are upgraded, widen to minimum standards with at least 50 foot diameter cul de sacs or turn arounds.
5. Codes and Ordinances	Examine existing codes and ordinances.	Amend and enforce existing building codes as they relate to skirting, propane tank locations, public nuisances (trash/debris on property), Property address marking standards and other relevant concerns Review the need for subdivision and development ordinances for public safety concerns. Enforce uniform addressing ordinance.

Proposed Community Wildland Fuel Reduction Priorities		
Treatment Area	Treatment Types	Treatment Method(s)
1. Adjacent WUI Lands	Reduce hazardous fuels	Encourage prescribed burning for private landowners and industrial timberlands particularly adjacent to residential areas. Seek grant for mowing or prescribed burning in WUI areas.
2. Existing Fire Lines	Reduce hazardous fuels	Clean and re-harrow existing lines.
Proposed Improved Community Wildland Fire Response Priorities		
1. Water Sources	Dry Hydrants & Dip Sites	Inspect, maintain and improve access to existing dry hydrants. Add signage along road to mark the hydrants. Need improved drafting equipment and turbo draft pumps and hose. GFC to locate and pre-clear additional helicopter dip sites for fire emergencies.
2. Fire Stations	Equipment	Wildland hand tools. Lightweight Wildland PPE Gear.
3. Water Handling	Tankers	Investigate need for tanker for headquarters station.
4. Road Names	Road Signage	Improved Road Signage at Crossroads. “Dead End” or “No Outlet” Tags on Road Signs
5. Personnel	Training	Obtain Wildland Fire Suppression training for Fire Personnel.
**Actions to be taken by homeowners and community stakeholders		

Proposed Education and Outreach Priorities

1. Conduct "How to Have a Firewise Home" Workshop for Irwin County Residents
Set up and conduct a workshop for homeowners that teach the principles of making homes and properties safe from wildfire. Topics for discussion include defensible space, landscaping, building construction, etc. Workshop will be scheduled for evenings or weekends when most homeowners are available and advertised through local media outlets. Target local schools, community groups and local senior centers. Distribute materials promoting firewise practices and planning through local community and governmental meetings.
2. Conduct "Firewise" Workshop for Community Leaders
Arrange for GFC Firewise program to work with local community leaders and governmental officials on the importance of "Firewise Planning" in developing ordinances and codes as the county as the need arises. Identify "Communities at Risk" within the county for possible firewise community recognition such as Pleasure Lake.
3. Spring Clean-up Event
Conduct clean-up event every spring involving the Georgia Forestry Commission, Irwin County Fire Departments and community residents. Set up information table with educational materials and refreshments. Initiate the event with a morning briefing by GFC Firewise coordinator and local fire officials detailing plans for the day and safety precautions. Activities to include the following: • Clean flammable vegetative material from roofs and gutters • Trim shrubs and vines to 30 feet away from structures • Trim overhanging limbs • Clean hazardous or flammable debris from adjacent properties Celebrate the work with a community cookout, with Community officials, GFC and Irwin County Fire Departments discussing and commending the work accomplished.
4. Informational Packets
Develop and distribute informational packets to be distributed by building permit office, realtors and insurance agents. Included in the packets are the following: • Be Firewise Around Your Home • Firewise Guide to Landscape and Construction • Firewise Communities USA Bookmarks

5. Wildfire Protection Display
Create and exhibit a display for the general public at local events. Display can be independent or combined with the Georgia Forestry Commission display. Hold Open House at individual Fire Stations to promote Community Firewise Safety and develop community support and understanding of local fire departments and current issues.
6. Press
Invite the local news media to community “Firewise” functions for news coverage and regularly submit press releases documenting wildfire risk improvements in Irwin County.

VIII. ACTION PLAN

Roles and Responsibilities

The following roles and responsibilities have been developed to implement the action plan:

Role	Responsibility
Hazardous Fuels and Structural Ignitability Reduction	
Irwin County WUI Fire Council	Create this informal team or council comprised of residents, GFC officials, Irwin County Fire Department officials, a representative from the city and county governments along with the county EMA Director. Meet periodically to review progress towards mitigation goals, appoint and delegate special activities, work with federal, state, and local officials to assess progress and develop future goals and action plans. Work with residents to implement projects and firewise activities.
Key Messages to focus on	1 Defensible Space and Firewise Landscaping 2 Debris Burning Safety 3 Firewise information for homeowners 4 Prescribed burning benefits
Communications objectives	1 Create public awareness for fire danger and defensible space issues 2 Identify most significant human cause fire issues 3 Enlist public support to help prevent these causes 4 Encourage people to employ fire prevention and defensible spaces in their communities.
Target Audiences	1 Homeowners 2 Forest Landowners and users 3 Civic Groups 4 School Groups
Methods	1 News Releases 2 Radio and TV PSA's for area stations and cable access channels 3 Personal Contacts 4 Key messages and prevention tips 5 Visuals such as signs, brochures and posters

Spring Clean-up Day	
Event Coordinator	Coordinate day's events and schedule, catering for cookout, guest attendance, and moderate activities the day of the day of the event.
Event Treasurer	Collect funds from residents to cover food, equipment rentals, and supplies.
Publicity Coordinator	Advertise event through neighborhood newsletter, letters to officials, and public service announcements (PSAs) for local media outlets. Publicize post-event through local paper and radio PSAs.
Work Supervisor	Develop volunteer labor force of community residents; develop labor/advisory force from Georgia Forestry Commission, Irwin County Fire Departments and Emergency Management Agency. Procure needed equipment and supplies. In cooperation with city and county officials, develop safety protocol. Supervise work and monitor activities for safety the day of the event.

Funding Needs

The following funding is needed to implement the action plan:

Project	Estimated Cost	Potential Funding Source(s)
1. Create a minimum of 30 feet of defensible space around structures	Varies	Residents will supply labor and fund required work on their own properties.
2. Reduce structural ignitability by cleaning flammable vegetation from roofs and gutters; appropriately storing firewood, installing skirting around raised structures, storing water hoses for ready access, replacing pine needles and mulch around plantings with less flammable material.	Varies	Residents will supply labor and fund required work on their own properties.
3. Amend codes and ordinances to provide better driveway access, increased visibility of house numbers, properly stored firewood, minimum defensible space brush clearance, required Class A roofing materials and skirting around raised structures, planned maintenance of community lots.	No Cost	To be adopted by city and county governments.
4. Spring Cleanup Day	Varies	Community Business Donations.
5. Fuel Reduction Activities	$35/acre	FEMA & USFS Grants

POTENTIAL FUNDING SOURCES:

As funding is questionable in these times of tight government budgets and economic uncertainty, unconventional means should be identified whereby the need for funding can be reduced or eliminated.

Publications / Brochures –

- FIREWISE materials are available for cost of shipping only at www.firewise.org.
- Another source of mitigation information can be found at www.nfpa.org.
- Access to reduced cost or free of charge copy services should be sought whereby publications can be reproduced.
- Free of charge public meeting areas should be identified where communities could gather to be educated regarding prevention and firewise principles.

Mitigation –

- Community Protection Grant:
    - USFS sponsored prescribed burn program. Communities with at risk properties that lie within 3 miles of the USFS border may apply with the GFC to have their forest land prescribed burned free of charge.
- FEMA Mitigation Policy MRR-2-08-01: through GEMA - Hazard Mitigation Grant Program (HMGP) and Pre Disaster Mitigation (PDM)
    - To provide technical and financial assistance to local governments to assist in the implementation of long term cost effective hazard mitigation measures.
    - This policy addresses wildfire mitigation for the purpose of reducing the threat to all-risk structures through creating defensible space, structural protection through the application of ignition resistant construction, and limited hazardous fuels reduction to protect life and property.
    - With a complete and registered plan (addendum to the State plan) counties can apply for pre-mitigation funding. They will also be eligible for HMGP if the county is declared under a wildfire disaster.
- GFC - Plowing and burning assistance can be provided through the Georgia Forestry Commission as a low cost option for mitigation efforts.
- Individual Homeowners –
    - In most cases of structural protection ultimately falls on the responsibility of the community and the homeowner. They will bear the cost; yet they will reap the benefit from properly implemented mitigation efforts.
    - GEMA Grant - PDM (See above)

Ultimately it is our goal to help the communities by identifying the communities threatened with a high risk to wildfire and educate those communities on methods to implement on reducing those risks.

Assessment Strategy

To accurately assess progress and effectiveness for the action plan, the Irwin County WUI Fire Council will implement the following:

- Annual wildfire risk assessment will be conducted to re-assess wildfire hazards and prioritize needed actions.
- Mitigation efforts that are recurring (such as mowing, burning, and clearing of defensible space) will be incorporated into an annual renewal of the original action plan.

- Mitigation efforts that could not be funded in the requested year will be incorporated into the annual renewal of the original action plan.
- Continuing educational and outreach programs will be conducted and assessed for effectiveness. Workshops will be evaluated based on attendance and post surveys that are distributed by mail 1 month and 6 months following workshop date.
- The Irwin County WUI Council will publish an annual report detailing mitigation projects initiated and completed, progress for ongoing actions, funds received, funds spent, and in-kind services utilized. The report will include a "state of the community" section that critically evaluates mitigation progress and identifies areas for improvement. Recommendations will be incorporated into the annual renewal of the action plan.
- An annual survey will be distributed to residents soliciting information on individual mitigation efforts on their own property (e.g., defensible space). Responses will be tallied and reviewed at the next Irwin County WUI Council meeting. Needed actions will be discussed and delegated.

This plan should become a working document that is shared by local, state, and federal agencies that will use it to accomplish common goals. An agreed-upon schedule for meeting to review accomplishments, solve problems, and plan for the future should extend beyond the scope of this plan. Without this follow up this plan will have limited value

GEORGIA FORESTRY
COMMISSION

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The Georgia Forestry Commission provides leadership, service, and education in the protection and conservation of Georgia's forest resources. An Equal Opportunity Employer and Service Provider

Appendix D

IRWIN COUNTY
HAZARD FREQUENCY TABLE

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance/ year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricanes/Tropical Storms	6	68	3	6	6	11.33	8.82	0.3	0.3	0.12
Tornadoes	8	68	1	4	8	8.50	11.76	0.1	0.2	0.16
Floods	6	68	3	6	6	11.33	8.82	0.3	0.3	0.12
Windstorms/Hailstorms/Lightning	97	68	40	59	90	0.70	142.65	4	2.95	1.8
Extreme Heat	34	12	33	34	34	0.35	283.33	3.3	1.7	0.68
Wildfires	2477	50	314	876	2477	0.02	4954.00	31.4	43.8	49.54
Drought	27	68	26	27	27	2.52	39.71	2.6	1.35	0.54
Hazardous Materials Release	1	40	1	1	1	40.00	2.50	0.1	0.05	0.02

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval. For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuarcy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

GEMA Worksheet #1 Identify the Hazard Step 1

Date: What kinds of natural hazards can affect you?

Task A. List the hazards that may occur.

1. *Research newspapers and other historical records*
2. *Review existing plans and reports.*
3. *Talk to the experts in your community, state, or region.*
4. *Gather information on Internet Websites.*
5. *Next to the hazard list below, put a check mark in the Task A boxes beside all hazards that may occur in your community or state.*

Task B. Focus on the most prevalent hazard in your community or state.

1. *Go to hazard Websites.*
2. *Locate your community or state on the Website map.*
3. *Determine whether you are in a high-risk area. Get more localized information if necessary.*
4. *Next to the hazard list below, put a check mark in the Task B boxes beside all hazards that post a significant threat.*

	Task A	**Task B**
Avalanche	___	___
Coastal Erosion	**___**	**___**
Coastal Storm	___	___
Dam Failure	**___**	**___**
Drought	_X	_X_
Earthquake	**___**	**___**
Expansive Soils	___	___
Extreme Heat	___	___
Flood	**_X_**	**_X_**
Hailstorm	_X_	_X_
Hurricane	**_X_**	**_X_**
Land Slide	___	___
Severe Winter Storm	_X_	_X_
Tornado	**_X_**	**_X_**
Tsunami	**___**	**___**
Volcano	___	___
Wildfire	**_X_**	**_X_**
Windstorm	___	___
Hazard Material	___	___
Radiological	___	___
Other: Thunderstorm/Wind	X	X
Other_____	___	___
Other_____	___	___

*Note: **Bolded** hazards are addressed in this How-to Guide.*

Use this space to record information you find for each of the hazards you will be researching. Attach additional pages as necessary.

Hazard or Event Description (Type of hazard, date of event, number of injuries, cost and types of damage, etc.)	**Source of Information**	**Map Available for this Hazard?**	**Scale of Map**

GEMA Worksheet #2 Profile Hazard Events Step 2

County: Date:

How Bad Can It Get?

Task A. Obtain or create a base map.

GEMA will be providing you with a base map, USGS topos and DOQQ as part of our deliverables to local government for the planning process. Additionally, we will be providing you with detailed hazard layer coverages. These data layers originate from state or nationwide coverage or datasets. Therefore, it is important for local government to assess what you already have at the local level. It is important for you at the local level to have an idea of what existing maps you have available for the planning process. Some important things to think about:

1) What maps do we already have in the county that would be relevant to the planning process?
2) Have other local plans used maps or mapping technology where there is specific data that is also needed in my local plan?
3) What digital maps do we have?
4) Do we have any Geographic Information System (GIS) data, map themes or layers or databases here at the local level (or regional) that we can use?
5) If we do have any GIS data, where is it located at, and who is our local expert?
6) Are there any ongoing GIS or mapping initiatives at the local level in other planning or mapping efforts? If so, what are they, and what are the timetables for completion?
7) Are there mapping needs that have been identified at the local level in the past? If so, what are they and when were they identified?
8) Of the existing maps, GIS data and other digital mapping information, what confidence do we have at the local level that it is accurate data?

Please answer the above questions on a separate sheet of paper and attach to this worksheet.
It is important to realize that those counties that already have GIS and digital mapping, (ie: parcel level data, GPS fire hydrants, etc) higher levels of spatial accuracy and detail will exist for some data layers at the local level. However, for this planning process, that level of detail will not be needed on all layers in the overall mapping and analysis.

You can use existing maps from:

- Road Maps
- USGS topographic maps or Digital Orthophoto Quarter Quads (DOQQ)
- Topographic and/or planimetric maps from other agencies
- Aerial topographic and/or planimetric maps
- Field Surveys
- GIS software
- CADD software
- Digitized paper map

Title of Map	Scale	Date

Task B. Obtain a hazard event profile.	Task C. Record your hazard event profile information.
Avalanche	
Coastal Storm / Coastal Erosion 1. Get a copy of your FIRM. _____ 2. Verify that the FIRM is up-to-date and complete. _____ 3. Determine the annual rate of coastal erosion. _____ 4. Find your design wind speed. _____	1. Transfer the boundaries of your coastal storm hazard areas onto your base map. 2. Transfer the BFEs onto your base map. 3. Record the erosion rates on your base map: _____ 4. Record the design wind speed here and on your base map: _____
Dam Failure	
Drought	
Earthquake 1. Go to the http://geohazards.cr.usgs.gov Website. 2. Locate your planning area on the map. 3. Determine your PGA.	1. Record your PGA: _____ 2. If you have more than one PGA print, download or order your PGA map.
Expansive Soils	
Extreme Heat	
Flood 1. Get a copy of your FIRM. _____ 2. Verify the FIRM is up-to-date and complete. _____	1. Transfer the boundaries from your firm onto your base map (floodway, 100-yr flood, 500-yr flood). 2. Transfer the BFEs onto your base map.
Hailstorm	
Hurricane	
Land Subsidence	
Landslide 1. Map location of previous landslides. _____ 2. Map the topography. _____ 3. Map the geology. _____ 4. Identify thee high-hazard areas on your map. _____	1. Mark the areas susceptible to landslides onto your base map.
Severe Winter Storm	
Tornado 1. Find your design wind speed. _____	1. Record your design wind speed: _____ 2. If you have more than one design wind speed, print, download or copy your design wind speed zones, copy the boundary of your design wind speed zones on your base map, then record the design wind speed zones on your base map.
Tsunami	
Wildfire 1. Map the fuel models located within the urban-wildland interface areas. _____ 2. Map the topography. _____ 3. Determine your critical fire weather frequency. _____ 4. Determine your fire hazard severity. _____	1. Draw the boundaries of your wildfire hazard areas onto your base map.
Other 1. Map the hazard. _____	1. Record hazard event info on your base map.

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

*3. **Scoring:** For each consideration, indicate a plus (+) for favorable, and a negative (-) for less favorable.*

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Goal 1: Enhance the community's ability to issue early warning of hurricanes in an effective, dependable, and rapid manner.

Objective 1: Ensure that a comprehensive early warning notification system is in place.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 1.1.1. Seek funding for a county-wide Early Warning Communication/ Notification System.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 1: Enhance the community's ability to issue early warning of hurricanes in an effective, dependable, and rapid manner.

Objective 2: Enhance the ability of the Irwin County Emergency Management Agency to respond effectively and efficiently to emergency needs during and after a hurricane event.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 1.1.2. Become a designated "StormReady Community."	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 1.1.3. Implement the "Community Emergency Response Team" (CERT) program.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 1.1.4. Implement upgrades to the EOC, including more phone lines, improved internet access, etc.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 2: Reduce the risks and vulnerability of citizens and critical facilities to damage resulting from hurricanes.

Objective 1: Protect life, health and property of residents from force of hurricanes.

STAPLEE Criteria	S		T			A			P			L			E				E				
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Action Step 2.1.1. Educate homeowners and builders on individual safe rooms.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.2. Distribute brochures and programs on personal emergency preparedness, e.g., emergency survival kits.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.3. Encourage the American Red Cross to teach the Citizen's Disaster Course on a frequent basis.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.4. Encourage businesses to develop emergency plans	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
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Action Step 2.1.5. Increase public awareness of the Early Warning Communication/Notification System, NOAA weather radios, and available community safe shelters by publishing articles in the local newspaper, publishing information on the internet, holding town hall meetings, providing bulletins to local churches and the schools, and other methods as needed.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.6. Acquire and install auxiliary portable and fixed generators (including transfer switches) for all designated evacuation and emergency shelters, community water systems, and other critical facilities.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.7. Trim tree lines around roads, homes, utilities and businesses.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
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Action Step 2.1.8. Retrofit public buildings and critical facilities to reinforce windows, roofs and doors.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.9. Initiate an inspection program at critical facilities to identify construction weaknesses subject to high wind damage.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.10. Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.11. Designate and inform the public about shelter locations.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 1: Minimize losses to existing and future structures, especially community critical facilities, due to tornadoes.

Objective 1: Take steps to reduce the community's vulnerability to tornado damage.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 2.1.1. Use building inspection program to inspect for adequate tie-downs on manufactured housing throughout the community.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.2. Promote identification and designation of safe shelter rooms in Critical Facilities, if available.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 2.1.3. Plan for pre-disaster mitigation in tornado and other hazard seasons by preparing public service announcements and brochures. Solicit business participation in distributing information.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 1: Minimize losses to existing and future structures, especially community critical facilities, due to flooding caused by excessive rainfall.

Objective 1: Improve capacity of the Ocilla and Irwin County existing drainage infrastructure to handle excessive rainfall.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 3.1.1. Seek funding to develop a countywide Master Drainage Plan.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A
Action Step 3.1.2. Implement the Master Drainage Plan. This will include determining the schedule for phased implementation, seeking funding to relieve flood threat and impact of flood damages, and continuing to review and update storm water run-off, watershed plans and effectiveness of present drainage ditching, culverts, storm water and sanitation network.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A
Action Step 3.1.3. Review existing regulations to ensure adequacy in reducing the amount of future development in identified flood hazard areas.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
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Action Step 3.1.4. Continue pursuing eligibility for the Community Rating System.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 3.1.5. Review all capital improvements plans to ensure that infrastructure improvements are not directed towards flood hazard areas.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 3.1.6. Work with Georgia Department of Transportation to identify areas of frequent roadway flooding and develop mitigation strategies.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 3.1.7. Continue membership in the NFIP by adopting updated ordinances and FIRM maps as updates are available, and continue to enforce floodplain regulations.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 1: Minimize losses to existing and future structures, especially community critical facilities, due to flooding caused by excessive rainfall.

Objective 2: Protect and conserve flood prone areas for community greenspace development.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 3.1.8. Monitor comprehensive land use plans to ensure consistency with the green space program, including mapping of lands to be permanently protected.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A
Action Step 3.1.9. Monitor existing subdivision regulations to promote conservation of floodplains, wetlands, and groundwater recharge areas.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A
Action Step 3.1.10. Seek funding from private foundations, individuals, federal and state grants, and local communities to leverage green space grant funds.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	+	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

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Goal 1: Minimize losses to existing and future structures, especially community critical facilities, due to flooding caused by excessive rainfall.

Objective 3: Ensure public health and safety during and following flood events.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 3.1.11. Seek funding for a county-wide Early Warning Communication/ Notification System.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

2. Fill in the alternative actions that address the specific objectives the planning team identified in Worksheet #1.

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Goal 1: Reduce the risks and vulnerability of citizens and critical facilities to damage resulting from windstorms, hail, and lightning.

Objective 1: Pursue structural and non-structural solutions to prevent or reduce damage from windstorms, hail, and lightning in Irwin County and the City of Ocilla.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 4.1.1. Acquire and install auxiliary portable and fixed generators (including transfer switches) for all designated evacuation and emergency shelters, community water systems, and other critical facilities.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 4.1.2. Retrofit public buildings and critical facilities to reinforce windows, roofs and doors.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 4.1.3. Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 4.1.4. Install lightning warning and protection equipment at outdoor recreational facilities countywide.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

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Goal 1: Prevent heat-related injuries and deaths.

Objective 1: Provide potential heat-stress victims with emergency shelter.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 5.1.1. Designate emergency shelters in consultation with appropriate organizations (Red Cross, Senior Citizen Centers, hospital, churches, health department, etc.)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 5.1.2. Acquire and install auxiliary portable and fixed generators (including transfer switches) for all designated evacuation and emergency shelters, community water systems, and other critical facilities.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

1. Fill in the goal and its corresponding objective. Use a separate worksheet for each objective. The considerations under each criterion are suggested ones to use; you can revise these to reflect your own considerations (see Table 2-1).

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Goal 1: Prevent damage resulting from wildfires in Irwin County, reduce the threat of wildfires, and protect the life and property of residents.

Objective 1: Prevent destruction of forests and structures.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
Considerations → for Alternative Actions ↓	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Action Step 6.1.1. Seek state and federal grants to acquire better fire equipment, including upgrades to County fire trucks, new ladder truck for the City, and breathing gear.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.2. Improve wildland fire training at the local fire department level.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.3. Improve public awareness of wildfire fighting techniques and ways to mitigate wildfire danger around the home and community, including the importance of fire buffers around the home, less ignitable landscaping, keeping debris off roofs, emergency vehicle access, dangers from lighted matches, cigarettes, and trash, how to obtain burn permits, and other concerns, by publishing articles in the local newspaper, holding town hall meetings, radio announcements, and providing bulletins to local churches and schools	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

STAPLEE Criteria	S		T			A			P			L			E				E				
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Action Step 6.1.4. Support Georgia Forestry Public Outreach efforts.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.5. Enforce building, fire and safety codes.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.6. Investigate methods to provide landowners an incentive to prescribe burn timberland thereby minimizing heavy fuel loads.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.7. Create more fire breaks.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.8. Build roads into areas that have no other access.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.9. Educate public and provide information on nighttime burning and smoke, with a focus on having fires extinguished by dusk.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.10. Improve communication with Georgia Environmental Protection Division in regard to illegal burning issues.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.11. Take steps to reduce fire hazards in the Pleasure Lake community.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

Worksheet #4 Evaluate Alternative Mitigation Actions

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Goal 1: Prevent damage resulting from wildfires in Irwin County, reduce the threat of wildfires, and protect the life and property of residents.

Objective 2: Reduce threat of wildfire occurring during periods of drought.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 6.1.12. Become a designated "Firewise Community"	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.13. Maintain dry hydrants	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.15. Investigate options for fitting deep pit wells with attachments for firefighting.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 6.1.16. Install more fire hydrants in the City of Ocilla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 1: Reduce the economic impact of drought on the Irwin County economy.

Objective 1: Minimize the economic impact of drought on agriculture.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 7.1.1. Promote more efficient use of surface irrigation	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 7.1.2. Promote construction of farm ponds for irrigation	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 7.1.3. Identify funds to repair existing ponds	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 7.1.4. Promote the drilling of 4 inch wells to recharge farm ponds	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A
Action Step 7.1.5. Implement a support system through FFA and USDA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	N/A	N/A	N/A

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Goal 2: Educate the citizenry about the effects of drought on public health and safety, economic activity, and environmental resources.

Objective 1: Manage available water resources.

STAPLEE Criteria	S		T			A			P			L			E				E				
	(Social)		(Technical)			(Administrative)			(Political)			(Legal)			(Economic)				(Environmental)				
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Action Step 7.2.1. Heighten public awareness on actions citizens can take to conserve water	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 7.2.2. Utilize the media for the distribution and publication of drought information.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 7.2.3. Update community websites to provide drought related information that is readily accessible.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 7.2.4. Ensure the reasonable allocation of supply during drought events through a coordinated and cooperative inter-agency response.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A
Action Step 7.2.5. Enforce policies for conservation of water during times of water shortage and drought.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N/A	N/A	+	N/A

Appendix E

killing another dog on Bussel Street.

• April 13: Someone fraudulently obtaining student loans in

one sending harassing text messages.

• April 11: Two men stealing a cell phone.

• April 15: A man trespassing

OCILLA STAR

ural and Industrial Development of Ocilla and Irwin County

LLA, GEORGIA 31774 • WEDNESDAY, APRIL 19, 2017 • 8 PAGES, ONE SECTION • 50¢

Public invited to kick-off meeting for update of Hazard Mitigation Plan

The Irwin County Emergency Management Agency (EMA) invites the public to attend the kick-off meeting for plannning and updating of the local Hazard Mitigation Plan. This plan is renewed every five (5) years. We would welcome any input from our citizens and local business owners.

Some of those who will be part of the planning group will be: Planning specialist from GEMHSA (Georgia Emergency Management and Homeland Security Agency), Board of County Commissioners, City of Ocilla, Fire/EMS, Sheriff's Department, Police Department, Health Department, Code Enforcement, Public Works, Forestry, and School Board.

The meeting will be for one hour on Tuesday, May 9, starting at 2 p.m. at the Irwin County EMS/EMA office located at 108 Cotton Drive, Ocilla.

Southern Georgia Regional Commission
Irwin County and the City of Ocilla
Hazard Mitigation Plan Update – Kick-off
Date: May 9, 2017

Name	Organization	Title	Email
Shelby Meyers	GEMA	Haz. Mit. Planner	Shelby.Meyers@gema.ga.gov
Arid Godwin	SGRC	planner	agodwin@sgrc.us
Loretta Hylton	SGRC	Planner	lhylton@sgrc.us
Josh Burnham	O.F.D.	Fire Fighter	Josh.Burnham87@yahoo.com
Theo Craddock	GFC	Chief Ranger	tcraddock@gfc.state.ga.us
Reporter Edge	City of Ocilla	Public Works	edge lumont@yahoo.com
Jerry Edwards	Irwin County EMS / EMA Volunteer Fire	Director	icema@windstream.net
Billy J. Hancock	Ocilla Police Dept	Chief of Police	ocillapd@windstream.net
Joey Whitley	Irwin Co. Commissioners	Chairman	irwincoo@mediacombb.net
Patricia Battle	Irwin Co. Commissioners	County Clerk	irwinclerk@mediacombb.net
Lee Martin	Road Dept	Superintendant	icroaddepartment@gmail.com
Cody Youngn	Irwin Sheriff Dept.	Deputy	Codyyoungn7@gmail.com
Mathew Edwards	Ocilla P.D.	Police officer	leconte191@gmail.com

6/13 10:00

Southern Georgia Regional Commission
Irwin County and the City of Ocilla
Hazard Mitigation Plan Update – Kick-off
Date: May 9, 2017

Name	Organization	Title	Email
* Michelle Stone, RN - Nurse Manager			
Latasha Watson	Irwin County Health Dept.	LPN	latasha.watson@dph.ga.gov.

Southern Georgia Regional Commission
Irwin County and the City of Ocilla
Workshop #1
Date: June 12, 2017

Name	Organization	Title	Email
Ariel Godwin	SGRC	Planner	agodwin@sgrc.us
Harvey Taylor	Ga. Forestry Comm.	Ranger II	htaylor@gfc.state.ga.us
Michelle Stone	Irwin Health Department	Nurse Manager	michelle.stone1@dph.ga.gov
Joey Whitley	Irwin Co. Comm.	Chairman	irwincoemedic@windstream.net
Jerry Edenfield	Irwin Co EMS/EMA	Director	icema@windstream.net
Will Towson	Ocilla Fire	Capt.	Wtowson@windstream.net
Kenneth Hendley	Ocilla fire	ff	Kenny.hendley@gmail.com
Lee Martin	Road Department		icroaddepartment@gmail.com

Southern Georgia Regional Commission
Irwin County and the City of Ocilla
Workshop #2
Date: July 11, 2017

Name	Organization	Title	Email
Ariel Godwin	SGRC	Planner	agodwin@sgrc.us.
Theophilus Craddock	GA Forestry Commission	Chief Ranger	tcraddock@gfc.state.ga.us
Billy Hancock	Ocilla Police Dept.	Chief	ocillapd@windstream.net
Joe Thompson	Irwin EMS	Training officer	irwinemsto@yahoo.com
Richard Edwards	Irwin Co Fire Dept.		icems@windstream.net

Southern Georgia Regional Commission
Irwin County and the City of Ocilla
Workshop #3
Date: August 8, 2017

Name	Organization	Title	Email
Theophilus Craddock	Georgia Forestry Commission	Chief Ranger	tcraddock@gfc.state.ga.us
Curtis M. Mathis	Irwin Co Fire/EMS	Paramedic/Firefighter	cmarcmathis@gmail.com
Jerry Edwards	Irwin County EMA	Director	icema@windstream.net,
Latasha Watson	ICHD	LPN	michelle.stone1@dph.ga.gov latasha.watson@dph.ga.gov
Arid Godwin	SGRC	Planner	agodwin@sgrc.us
Will Towson	Ocilla Fire	Capt.	WTowson@windstream.net

Southern Georgia Regional Commission
Irwin County and the City of Ocilla
Workshop #4
Date: Oct. 10, 2017

Name	Organization	Title	Email
Lee Martin			icroaddepartment@gmail.com
Jerry Edenfield	Irwin County EMA	Director	iccema@windstream.net
Ariel Godwin	SGRC	planner	agodwin@sgrc.us
Natasha Watson	Irwin County HD	LPN, Public Health Nurse	Natasha.watson@dph.ga.gov.

Southern Georgia Regional Commission
Irwin County and the City of Ocilla
Workshop #5
Date: November 14, 2017

Name	Organization	Title	Email
Ricky Edwards	Irwin Co Fire	FF/EMT	
Stacy Searcy	Irwin Co EMA	PARAMEDIC	
Ronny Shuckelford	Irwin Co EMS	Paramedic	
Theo Craddock	Ga Forestry Commission	Chief Ranger	
Ariel Godwin	SGRC	planner	agodwin@sgrc.us
Michelle Stone	Irwin Health Dept.	Nurse	michelle.stone1@dph.ga.gov

Resolution no. _____

RESOLUTION FOR ADOPTION OF
IRWIN COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN UPDATE

WHEREAS, to be eligible for federal disaster assistance in the event of a presidentially declared disaster and mitigation assistance under the Hazard Mitigation Grant programs, local governments must have adopted or be actively developing a Hazard Mitigation Plan prepared in accordance with federal regulations promulgated pursuant to the Disaster Mitigation Act of 2000 ("the Act"); and

WHEREAS, Irwin County and the City of Ocilla adopted the previous Irwin County Hazard Mitigation Plan Update in 2014; and

WHEREAS, in accordance with the requirements of the Act, an updated plan is required to be submitted to FEMA through GEMA every five years; and

WHEREAS, the 2014 Plan Update will expire on April 17, 2019 and the new Hazard Mitigation Plan Update will become effective on April 17, 2019; and

WHEREAS, the Irwin County Emergency Management Agency, with the assistance of representatives from various other departments within Irwin County and the City of Ocilla, as well as volunteer and other non-governmental agencies, has developed an updated plan to meet these requirements; and

WHEREAS, the updated plan is titled the "Irwin County and the City of Ocilla 2018-2023 Hazard Mitigation Plan Update" (referred to hereafter as "the Plan"); and

WHEREAS, the Plan applies to unincorporated Irwin County and the City of Ocilla; and

WHEREAS, GEMA has notified the Irwin County Emergency Management Agency that the Plan satisfies the requirements of the Act;

BE IT THEREFORE RESOLVED that Irwin County, meeting in regular session, hereby adopts the Plan.

SO RESOLVED this 10 day of September 2018.

By _____
County Commission Chair

Attest Patricia Battle

A RESOLUTION OF THE CITY OF OCILLA CITY COUNCIL PURSUANT TO THE DISASTER MITIGATION ACT OF 2000 AUTHORIZING ADOPTION OF THE IRWIN COUNTY PRE-DISASTER HAZARD MITIGATION PLAN

WHEREAS, Irwin County and its municipal governments are required to complete a Pre-Disaster Hazard Mitigation Plan by the Disaster Mitigation Act of 2000; and

WHEREAS, under the provisions of the Disaster Mitigation Act of 2000, local governments that complete Pre-Disaster Hazard Mitigation Plans will remain eligible for Federal mitigation funding; and

WHEREAS, Irwin County and its municipal governments have completed a Pre-Disaster Hazard Mitigation Plan that fulfills the Federal requirements of the Disaster Mitigation Act of 2000.

NOW THEREFORE LET IT BE RESOLVED THAT THE CITY OF OCILLA COUNCIL FORMALLY ADOPTS THIS PRE-DISASTER HAZARD MITIGATION PLAN.

RESOLVED THIS 2 DAY OF Oct, 2018

Matt Seale

Signed: Matt Seale, Mayor

(City Seal)

Lucile Middlebrooks

Attest: Lucile Middlebrooks, City Clerk

Appendix F

NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Storm Events Database

Search Results for Irwin County, Georgia

Event Types: Hurricane (Typhoon), Tropical Storm

Irwin county contains the following zones:
'Irwin'

5 events were reported between 07/01/1950 and 12/31/2017 (24656 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	5
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	4
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	2

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

*Click on **Location** below to display details.*
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	155.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	09/03/1998	00:00	EST	Tropical Storm		0	0	15.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	09/26/2004	18:00	EST	Tropical Storm		0	0	35.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	07/09/2005	18:00	EST	Hurricane (typhoon)		0	0	100.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	08/22/2008	12:00	EST-5	Tropical Storm		0	0	5.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	09/02/2016	00:00	EST-5	Tropical Storm		0	0	0.00K	0.00K
Totals:								0	0	155.00K	0.00K

Storm Events Database

Search Results for Irwin County, Georgia

Event Types: Tornado

8 events were reported between 07/01/1950 and 07/31/2017 (24503 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	8
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	8
Number of Days with Event and Crop Damage:	1
Number of Event Types reported:	1

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

*Click on **Location** below to display details.*
Available Event Types have changed over time. Please refer to the Database Details for more information.

Select: All Tornadoes ▼ Sort By: Date/Time (Oldest) ▼

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	580.00K	8.00K
IRWIN CO.	IRWIN CO.	GA	02/28/1966	08:00	CST	Tornado	F1	0	0	2.50K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/01/1966	18:30	CST	Tornado	F1	0	0	2.50K	0.00K
IRWIN CO.	IRWIN CO.	GA	05/29/1970	11:35	CST	Tornado	F0	0	0	2.50K	0.00K
IRWIN CO.	IRWIN CO.	GA	01/13/1972	15:30	CST	Tornado	F1	0	0	2.50K	0.00K
OCILLA	IRWIN CO.	GA	09/22/2000	14:00	EST	Tornado	F1	0	0	200.00K	8.00K
OCILLA	IRWIN CO.	GA	12/24/2002	10:10	EST	Tornado	F1	0	0	250.00K	0.00K
OCILLA	IRWIN CO.	GA	12/28/2005	17:55	EST	Tornado	F0	0	0	50.00K	0.00K
OCILLA	IRWIN CO.	GA	04/07/2014	12:55	EST-5	Tornado	EF1	0	0	70.00K	0.00K
Totals:								0	0	580.00K	8.00K

Storm Events Database

Search Results for Irwin County, Georgia

Event Types: **Flash Flood, Flood**

Irwin county contains the following zones:
'Irwin'

6 events were reported between 07/01/1950 and 12/31/2017 (24656 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	6
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	1
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	2

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

*Click on **Location** below to display details.*
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	500.00K	0.00K
COUNTYWIDE	IRWIN CO.	GA	03/30/2000	07:00	EST	Flash Flood		0	0	500.00K	0.00K
WATERLOO	IRWIN CO.	GA	06/15/2008	19:00	EST-5	Flood		0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	08/08/2012	05:19	EST-5	Flash Flood		0	0	0.00K	0.00K
ARP	IRWIN CO.	GA	02/13/2013	03:00	EST-5	Flood		0	0	0.00K	0.00K
ABBA	IRWIN CO.	GA	02/23/2013	17:00	EST-5	Flood		0	0	0.00K	0.00K
ARP	IRWIN CO.	GA	08/19/2013	18:15	EST-5	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	500.00K	0.00K

Storm Events Database

Search Results for Irwin County, Georgia

Event Types: Hail, High Wind, Lightning, Strong Wind, Thunderstorm Wind

Irwin county contains the following zones:
'Irwin'

97 events were reported between 01/01/1950 and 12/31/2017 (24837 days)

Summary Info:

Number of County/Zone areas affected:	2
Number of Days with Event:	74
Number of Days with Event and Death:	2
Number of Days with Event and Death or Injury:	2
Number of Days with Event and Property Damage:	29
Number of Days with Event and Crop Damage:	1
Number of Event Types reported:	4

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

Wind Magnitude Definitions:
Measured Gust:'MG', Estimated Gust:'EG', Measured Sustained:'MS', Estimated Sustained:'ES'

*Click on **Location** below to display details.*
Available Event Types have changed over time. Please refer to the Database Details for more information.

Select: All Hail | All Wind Speeds — Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								2	1	989.50K	50.00K
IRWIN CO.	IRWIN CO.	GA	05/15/1955	15:00	CST	Hail	2.00 in.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	04/06/1958	03:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/07/1963	14:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	06/25/1964	16:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	06/04/1965	14:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	06/04/1965	14:00	CST	Hail	1.00 in.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	05/08/1967	21:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/02/1973	18:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/02/1973	18:00	CST	Hail	1.50 in.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	01/12/1975	14:40	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/04/1976	14:20	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	06/21/1980	15:30	CST	Thunderstorm Wind	55 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	12/05/1983	11:45	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	12/05/1983	20:45	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/02/1984	04:54	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/02/1984	05:45	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/04/1985	16:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/23/1986	17:10	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	10/10/1986	16:50	CST	Hail	0.75 in.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	04/25/1988	20:51	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	05/10/1988	17:30	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	05/23/1988	17:20	CST	Hail	1.75 in.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	05/24/1988	16:20	CST	Hail	2.50 in.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	08/23/1989	14:15	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	11/15/1989	23:30	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K

IRWIN CO.	IRWIN CO.	GA	02/10/1990	07:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	05/21/1990	17:05	CST	Hail	0.75 in.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/09/1990	18:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	07/23/1990	19:48	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWIN CO.	IRWIN CO.	GA	03/03/1991	11:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
Irwinville	IRWIN CO.	GA	10/30/1993	04:52	EST	Thunderstorm Wind	0 kts.	0	0	500.00K	50.00K
Ocilla	IRWIN CO.	GA	08/04/1994	17:30	EST	Thunderstorm Wind	0 kts.	0	0	5.00K	0.00K
Ocilla	IRWIN CO.	GA	05/15/1995	19:20	EST	Thunderstorm Wind	0 kts.	0	0	10.00K	0.00K
Ocilla	IRWIN CO.	GA	05/19/1995	13:30	EST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	03/06/1996	14:15	EST	Hail	0.75 in.	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	06/01/1997	17:20	EST	Hail	0.75 in.	0	0	0.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	07/05/1997	09:00	EST	Hail	0.75 in.	0	0	0.00K	0.00K
WRAY	IRWIN CO.	GA	10/25/1997	17:40	EST	Thunderstorm Wind	50 kts.	0	0	20.00K	0.00K
OCILLA	IRWIN CO.	GA	04/09/1998	01:10	EST	Hail	0.88 in.	0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	04/19/1998	12:00	EST	High Wind		0	0	30.00K	0.00K
COUNTYWIDE	IRWIN CO.	GA	06/05/1998	19:25	EST	Thunderstorm Wind		0	0	5.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	08/18/2000	19:40	EST	Thunderstorm Wind		0	0	1.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	06/04/2001	18:00	EST	Hail	0.75 in.	0	0	0.00K	0.00K
COUNTYWIDE	IRWIN CO.	GA	05/02/2003	22:30	EST	Thunderstorm Wind	50 kts. EG	0	0	25.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	05/01/2004	17:07	EST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	07/15/2004	15:55	EST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OCILLA	IRWIN CO.	GA	04/27/2005	01:10	EST	Hail	1.75 in.	0	0	0.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	12/28/2005	17:40	EST	Thunderstorm Wind	5 kts. EG	0	0	5.00K	0.00K
COUNTYWIDE	IRWIN CO.	GA	04/08/2006	15:00	EST	Thunderstorm Wind	55 kts. EG	0	0	2.00K	0.00K
COUNTYWIDE	IRWIN CO.	GA	05/10/2006	19:00	EST	Thunderstorm Wind	60 kts. EG	0	0	2.50K	0.00K
MYSTIC	IRWIN CO.	GA	05/14/2006	18:30	EST	Lightning		1	0	0.00K	0.00K
MYSTIC	IRWIN CO.	GA	05/14/2006	18:33	EST	Hail	0.75 in.	0	0	0.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	05/25/2006	17:30	EST	Hail	1.00 in.	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	05/28/2006	16:20	EST	Thunderstorm Wind	55 kts. EG	0	0	0.50K	0.00K
OCILLA	IRWIN CO.	GA	12/25/2006	02:00	EST-5	Thunderstorm Wind	55 kts. EG	0	0	15.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	02/13/2007	15:40	EST-5	Thunderstorm Wind	55 kts. EG	0	0	3.00K	0.00K
OCILLA	IRWIN CO.	GA	04/15/2007	00:00	EST-5	Thunderstorm Wind	55 kts. EG	0	0	2.00K	0.00K
OCILLA	IRWIN CO.	GA	02/26/2008	12:02	EST-5	Thunderstorm Wind	60 kts. EG	0	0	250.00K	0.00K
WATERLOO	IRWIN CO.	GA	07/05/2008	15:30	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	01/07/2009	05:25	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
OSIERFIELD	IRWIN CO.	GA	04/08/2010	18:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	06/25/2010	12:45	EST-5	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
MYSTIC	IRWIN CO.	GA	04/05/2011	02:15	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	04/05/2011	02:20	EST-5	Thunderstorm Wind	60 kts. EG	1	1	50.00K	0.00K
OCILLA	IRWIN CO.	GA	03/03/2012	09:25	EST-5	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
WATERLOO	IRWIN CO.	GA	07/01/2012	20:45	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
MYSTIC	IRWIN CO.	GA	07/17/2012	11:30	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
WATERLOO	IRWIN CO.	GA	01/30/2013	19:25	EST-5	Thunderstorm Wind	55 kts. EG	0	0	4.00K	0.00K
OCILLA	IRWIN CO.	GA	02/21/2014	08:50	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OCILLA	IRWIN CO.	GA	02/21/2014	09:00	EST-5	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
OCILLA	IRWIN CO.	GA	02/21/2014	09:00	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
HOLT	IRWIN CO.	GA	02/21/2014	09:05	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
HOLT	IRWIN CO.	GA	02/21/2014	09:05	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
HOLT	IRWIN CO.	GA	02/21/2014	09:05	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
WRAY	IRWIN CO.	GA	02/21/2014	09:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
MYSTIC	IRWIN CO.	GA	04/07/2014	12:55	EST-5	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
OCILLA	IRWIN CO.	GA	04/07/2014	13:05	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OCILLA	IRWIN CO.	GA	04/07/2014	13:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OCILLA	IRWIN CO.	GA	04/07/2014	13:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OCILLA	IRWIN CO.	GA	04/07/2014	13:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OCILLA	IRWIN CO.	GA	04/07/2014	13:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
OCILLA	IRWIN CO.	GA	04/07/2014	13:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
HOLT	IRWIN CO.	GA	04/07/2014	13:25	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K

ARP	IRWIN CO.	GA	08/20/2014	18:10	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.50K	0.00K
OCILLA	IRWIN CO.	GA	04/25/2015	19:00	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLT	IRWIN CO.	GA	07/02/2015	15:49	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
HOLT	IRWIN CO.	GA	07/15/2015	16:40	EST-5	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	07/15/2015	16:40	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
IRWINVILLE	IRWIN CO.	GA	07/19/2015	18:50	EST-5	Thunderstorm Wind	55 kts. EG	0	0	4.00K	0.00K
OCILLA	IRWIN CO.	GA	05/03/2016	16:28	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	05/03/2016	16:30	EST-5	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
OCILLA	IRWIN CO.	GA	06/17/2016	20:41	EST-5	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	06/17/2016	20:45	EST-5	Thunderstorm Wind	55 kts. EG	0	0	0.00K	0.00K
WATERLOO	IRWIN CO.	GA	01/21/2017	23:55	EST-5	Hail	1.75 in.	0	0	0.00K	0.00K
PINETTA	IRWIN CO.	GA	04/05/2017	19:42	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
WRAY	IRWIN CO.	GA	04/05/2017	19:57	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
OCILLA	IRWIN CO.	GA	07/10/2017	14:45	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
Totals:								2	1	989.50K	50.00K

Storm Events Database

Search Results for Irwin County, Georgia

Event Types: Heat

Irwin county contains the following zones:
'Irwin'

0 events were reported between 01/01/1950 and 12/31/2017 (24837 days)

Summary Info:

Number of County/Zone areas affected:	0
Number of Days with Event:	0
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	0

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

*Click on **Location** below to display details.*
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K

Georgia Forestry Commission

Monthly Data

Monday, May 08, 2017

Vision - Healthy, sustainable forests providing clean air, clean water, and abundant products for future generations.
Mission - To provide leadership, service, and education in the protection and conservation of Georgia's forest resources.

Acreage Burned for Irwin County for CY 1967 to 2017

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1967	4.20	5.40	85.40	57.50	3.80	0.20	2.50	5.70	0.00	5.70	9.70	0.00	180.10
1968	9.90	63.90	78.30	1.60	0.00	11.30	9.60	0.00	0.40	13.20	0.00	2.40	190.60
1969	9.10	11.10	7.80	1.20	3.00	0.00	48.00	0.00	0.00	20.80	17.60	6.20	124.80
1970	5.80	7.90	9.52	0.00	3.30	0.00	2.60	0.00	4.34	3.93	5.30	78.79	121.48
1971	56.37	26.68	7.80	23.61	0.00	10.20	0.00	0.00	0.00	0.00	13.10	24.86	162.62
1972	1.03	68.50	162.00	20.70	1.21	31.18	0.00	1.00	121.62	26.04	0.10	5.80	439.18
1973	40.10	11.95	27.10	1.00	0.02	0.03	0.12	0.00	0.00	13.32	29.00	49.03	171.67
1974	23.43	1.50	179.80	0.00	0.04	0.02	64.60	0.04	0.01	3.90	0.00	21.40	294.74
1975	2.12	3.10	9.90	0.20	0.00	1.20	3.00	8.70	0.15	0.52	12.50	5.10	46.49
1976	101.40	76.75	56.71	14.40	1.52	3.90	38.10	35.80	1.90	1.35	2.20	30.00	364.03
1977	12.10	189.30	49.35	21.40	76.70	13.90	183.10	0.20	0.00	7.70	0.47	9.92	564.14
1978	9.91	127.55	7.21	147.20	0.00	0.00	1.08	112.03	13.89	17.93	39.73	25.71	502.24
1979	2.93	8.75	31.28	0.23	0.00	65.25	1.80	1.23	0.00	0.45	0.20	22.51	134.63
1980	6.94	34.59	5.26	1.96	0.30	2.57	3.05	9.43	24.50	11.10	14.61	31.42	145.73
1981	197.47	97.20	215.77	6.16	118.39	8.19	8.57	0.66	8.39	0.63	24.40	5.11	690.94
1982	9.25	7.49	3.29	0.00	8.98	1.31	4.00	0.00	6.04	0.26	22.44	6.04	69.10
1983	37.67	0.12	6.77	1.71	0.00	0.21	0.00	5.39	0.00	17.89	0.00	0.83	70.59
1984	9.03	75.45	0.00	0.00	1.05	47.53	0.00	0.09	4.36	2.86	12.72	29.42	182.51
1985	41.99	119.87	171.95	5.31	14.63	9.97	42.36	0.25	0.55	0.33	0.00	17.23	424.44
1986	20.91	1.76	0.58	15.67	37.66	1.48	274.06	0.00	3.16	0.32	1.22	0.00	356.82
1987	0.43	10.74	7.76	20.93	0.49	0.32	1.74	0.24	1.77	25.49	25.65	6.71	102.27
1988	98.09	30.44	47.94	2.96	2.16	8.53	3.30	2.50	0.50	9.22	0.00	43.59	249.23
1989	84.53	28.68	14.94	0.98	3.71	27.33	0.01	7.85	0.11	1.32	0.05	51.86	221.37
1990	6.68	0.07	34.00	8.27	2.10	0.00	30.77	23.76	31.46	11.63	0.59	2.56	151.89
1991	0.98	91.81	4.86	0.00	0.59	0.00	0.00	0.07	1.55	9.81	49.71	38.41	197.79
1992	3.66	5.89	13.78	1.56	1.05	0.00	6.67	11.42	0.00	0.15	1.35	0.00	45.53
1993	2.32	18.81	1.64	4.92	3.19	16.18	1.30	3.82	1.96	5.78	0.00	5.18	65.10
1994	7.61	0.26	7.85	1.83	1.41	7.46	0.00	0.00	0.00	0.00	0.67	3.00	30.09
1995	1.99	4.69	13.12	1.78	10.60	11.04	0.42	0.82	1.64	18.48	3.96	29.51	98.05
1996	27.36	62.52	36.75	0.14	0.20	0.02	0.69	5.50	8.30	21.05	7.31	14.29	184.13
1997	0.57	0.70	4.85	0.78	0.91	0.89	2.66	11.73	10.72	10.61	0.00	0.00	44.42
1998	0.35	0.94	6.94	2.66	2.78	5.26	1.95	2.85	0.04	1.27	0.75	4.67	30.46
1999	4.70	23.85	58.41	8.15	13.48	5.45	0.00	10.43	1.88	3.70	1.54	75.78	207.37
2000	12.60	61.04	11.81	40.83	48.30	17.61	2.20	0.60	0.00	17.63	1.08	17.46	231.16
2001	25.26	12.55	0.63	0.34	10.03	0.23	0.00	5.63	0.00	0.20	3.68	11.97	70.52

2002	13.84	61.08	73.72	1.55	2.33	8.06	1.28	0.00	0.00	0.30	0.00	0.00	162.16
2003	10.02	0.16	1.42	0.00	0.00	0.00	0.02	1.03	0.00	0.23	0.97	0.00	13.85
2004	4.43	44.44	46.37	3.43	21.08	7.65	2.48	0.51	0.00	0.46	2.60	1.48	134.93
2005	7.96	14.02	9.38	0.00	0.19	0.00	5.11	0.72	190.34	1.62	6.88	12.80	249.02
2006	2.61	4.80	197.53	20.71	35.75	2.47	2.44	19.69	22.02	4.85	42.02	0.36	355.25
2007	1.68	21.89	30.44	256.93	79.04	29.96	4.27	0.02	0.74	0.24	14.81	10.91	450.93
2008	5.36	14.52	4.18	15.57	27.67	151.24	0.00	0.00	16.33	41.01	1.27	9.89	287.04
2009	8.42	13.56	65.76	0.30	0.00	0.00	0.41	0.00	0.00	0.00	2.69	0.00	91.14
2010	0.00	19.11	1.21	44.20	0.12	0.00	50.21	0.08	31.30	5.06	22.69	51.70	225.68
2011	24.43	80.80	81.29	2.91	36.53	18.81	20.82	22.70	0.83	4.82	0.00	0.07	294.01
2012	14.49	6.49	45.11	10.80	2.50	5.81	0.01	7.20	0.00	50.48	4.80	1.90	149.59
2013	11.10	1.32	0.50	2.77	7.60	0.14	0.00	0.00	0.24	0.00	0.00	0.13	23.80
2014	2.14	129.75	19.84	3.30	0.00	0.50	7.10	2.91	0.00	12.90	4.24	11.90	194.58
2015	1.20	4.90	0.20	3.35	0.59	2.70	1.36	0.00	27.74	0.60	0.00	0.00	42.64
2016	9.90	1.04	1.28	0.70	0.58	0.00	30.82	0.00	0.00	8.64	15.66	3.60	72.22
2017	27.91	19.85	46.59	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	95.65

Number of Fires for Irwin County for CY 1967 to 2017

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1967	2.	3.	6.	3.	3.	1.	4.	2.	0.	2.	2.	0.	28.
1968	3.	11.	8.	1.	0.	2.	1.	0.	2.	4.	0.	1.	33.
1969	3.	2.	1.	1.	2.	0.	2.	0.	0.	2.	1.	2.	16.
1970	4.	6.	1.	0.	2.	0.	2.	0.	3.	3.	2.	21.	44.
1971	34.	13.	4.	14.	0.	9.	0.	0.	0.	0.	3.	4.	81.
1972	2.	5.	6.	4.	3.	11.	0.	1.	3.	10.	1.	4.	50.
1973	3.	5.	5.	1.	1.	1.	2.	0.	0.	16.	13.	11.	58.
1974	8.	1.	8.	1.	1.	2.	3.	1.	1.	3.	0.	16.	45.
1975	5.	5.	3.	2.	0.	1.	1.	17.	3.	3.	7.	7.	54.
1976	18.	19.	10.	6.	2.	3.	3.	4.	2.	1.	2.	2.	72.
1977	2.	11.	5.	3.	11.	12.	4.	2.	0.	3.	5.	4.	62.
1978	9.	14.	8.	5.	0.	0.	1.	2.	12.	15.	10.	9.	85.
1979	5.	6.	6.	1.	0.	1.	3.	5.	0.	4.	1.	4.	36.
1980	3.	5.	3.	3.	1.	3.	2.	5.	7.	9.	7.	12.	60.
1981	19.	11.	15.	2.	9.	7.	4.	1.	4.	2.	11.	2.	87.
1982	3.	4.	3.	0.	1.	2.	1.	0.	2.	3.	2.	5.	26.
1983	5.	1.	1.	2.	0.	1.	0.	5.	0.	2.	0.	3.	20.
1984	4.	3.	0.	0.	1.	2.	0.	1.	5.	4.	6.	12.	38.
1985	20.	19.	19.	7.	8.	3.	4.	1.	2.	2.	0.	5.	90.
1986	6.	1.	1.	10.	19.	8.	8.	0.	4.	1.	1.	0.	59.
1987	1.	3.	4.	7.	1.	2.	1.	2.	4.	19.	11.	6.	61.
1988	5.	9.	6.	3.	4.	3.	2.	2.	1.	3.	0.	14.	52.
1989	12.	9.	5.	1.	4.	5.	1.	1.	1.	1.	1.	10.	51.
1990	2.	1.	5.	4.	5.	0.	11.	12.	16.	9.	2.	1.	68.

1991	1.	13.	6.	0.	1.	1.	0.	1.	2.	9.	19.	12.	65.
1992	3.	3.	10.	2.	4.	0.	1.	3.	0.	2.	2.	0.	30.
1993	2.	4.	2.	6.	5.	11.	4.	2.	1.	6.	0.	3.	46.
1994	5.	3.	8.	2.	4.	1.	0.	0.	0.	0.	2.	1.	26.
1995	2.	5.	3.	1.	3.	4.	1.	4.	6.	8.	4.	12.	53.
1996	7.	15.	12.	2.	3.	1.	3.	3.	9.	4.	10.	4.	73.
1997	1.	1.	3.	1.	1.	4.	2.	8.	9.	2.	0.	0.	32.
1998	1.	1.	4.	2.	4.	6.	10.	2.	1.	3.	1.	5.	40.
1999	8.	8.	21.	5.	9.	6.	0.	6.	4.	4.	9.	12.	92.
2000	4.	15.	10.	3.	9.	8.	2.	2.	0.	4.	3.	5.	65.
2001	17.	13.	1.	1.	9.	3.	0.	4.	0.	2.	6.	12.	68.
2002	6.	7.	14.	4.	5.	6.	2.	0.	0.	1.	0.	0.	45.
2003	6.	1.	3.	0.	0.	0.	1.	2.	0.	1.	3.	1.	18.
2004	3.	2.	15.	4.	10.	1.	4.	3.	0.	3.	2.	2.	49.
2005	5.	7.	6.	0.	1.	0.	2.	1.	4.	3.	7.	3.	39.
2006	4.	6.	8.	8.	8.	12.	4.	6.	3.	6.	5.	1.	71.
2007	1.	11.	6.	13.	20.	5.	3.	1.	3.	2.	5.	5.	75.
2008	5.	4.	1.	3.	5.	14.	0.	0.	4.	3.	4.	4.	47.
2009	3.	10.	8.	4.	0.	0.	2.	0.	0.	0.	1.	0.	28.
2010	0.	5.	4.	6.	1.	0.	5.	1.	5.	8.	7.	11.	53.
2011	8.	15.	6.	1.	9.	9.	2.	1.	1.	3.	0.	1.	56.
2012	6.	3.	5.	7.	2.	2.	1.	1.	0.	2.	4.	3.	36.
2013	3.	1.	1.	3.	3.	2.	0.	0.	1.	0.	0.	1.	15.
2014	1.	5.	2.	1.	0.	1.	2.	2.	0.	3.	2.	2.	21.
2015	1.	3.	1.	2.	2.	1.	1.	0.	2.	1.	0.	0.	14.
2016	1.	1.	3.	1.	2.	0.	2.	0.	0.	4.	12.	2.	28.
2017	6.	5.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	16.

Storm Events Database

Search Results for Irwin County, Georgia

Event Types: Wildfire

Irwin county contains the following zones:
'Irwin'

0 events were reported between 01/01/1950 and 12/31/2017 (24837 days)

Summary Info:

Number of County/Zone areas affected:	0
Number of Days with Event:	0
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	0

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

*Click on **Location** below to display details.*
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K

Storm Events Database

Search Results for Irwin County, Georgia

Event Types: Drought

Irwin county contains the following zones:
'Irwin'

27 events were reported between 01/01/1950 and 12/31/2017 (24837 days)

Summary Info:

Number of County/Zone areas affected:	1
Number of Days with Event:	27
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	0
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	1

Column Definitions:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage, 'CrD': Crop Damage

*Click on **Location** below to display details.*
Available Event Types have changed over time. Please refer to the Database Details for more information.

Sort By: Date/Time (Oldest)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	09/01/1997	00:00	EST	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	11/23/2010	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	12/01/2010	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	01/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	02/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	03/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	04/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	05/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	06/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	07/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	08/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	09/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	10/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	11/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	12/01/2011	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	01/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	02/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	03/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	04/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	05/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	06/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	07/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	08/01/2012	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	01/01/2013	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	02/01/2013	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	11/22/2016	00:00	EST-5	Drought		0	0	0.00K	0.00K
IRWIN (ZONE)	IRWIN (ZONE)	GA	12/01/2016	00:00	EST-5	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

PHMSA Office of Hazardous Materials Safety **Incident Reports Database Search**

PHMSA Hazmat Home

Source: Hazmat Intelligence Portal, U.S.Department of Transportation. Data as of 11/9/2017.

PART II - GENERAL INCIDENT INFORMATION

3. Date of Incident: From: To: (mm/dd/yyyy)

7. Location of Incident: City: OCILLA (begins) State: Georgia Zip Code: (contains)

Incident Route: (contains)

8. Mode of Transportation: Air Highway Rail Water Other

9. Transportation Phase: In Transit Loading Unloading In Transit Storage

10. Carrier/Reporter Name: (contains)

State: Select Zip Code: (contains)

11. Shipper/Offeror Name: (contains)

12. Origin: City: (contains) State: Select Zip Code: (contains)

14. Proper Shipping Name of Hazardous Material: (contains)

16. Hazardous Class/Division Code: (begins) 17. Identification Number: (contains)

PART III - PACKAGING INFORMATION

24. Packaging Type: Non-Bulk IBC Cargo Tank Motor Vehicle (CTMV) Tank Car Cylinder RAM Portable Tank Other

25. Incident Cause: What Failed: (contains) How Failed: (contains)

Causes of Failure: (contains)

PART IV - CONSEQUENCES

30.Result of Incident: Spillage Fire Explosion Material Entered Waterway/Storm Sewer Vapor(Gas) Dispersion Environmental Damage No Release

33a. Did the hazardous material cause or contribute to a human fatality? Select

34. Did the hazardous material cause or contribute to personal injury? Select

35. Did the hazardous material cause or contribute to an evacuation? Select

36. Was a major transportation artery or facility closed? Select

37. Was the material involved in a crash or derailment? Select

OTHER

Report Number: (contains) Serious Incident: Select

Container Code Detail: (contains) Undeclared Shipment: Select

General Package Type: Select

DISPLAY OPTIONS: Display 50 results per page.

Clear Search

** Since some incidents involve multiple commodities and/or multiple package types, double counting can occur.*

** Use the following links to obtain helpful reference information:*

Serious Incident Definition - PHMSA revised the definition of a serious incident in Fiscal Year 2002. This site uses both definitions

Data Dictionary - Description of the data fields in the reports on this site

Units Of Measure - Description of the units of measure used in the reports on this site

1 Record(s) found - Please click on any column header to sort by ascending or descending

EXPORT OPTIONS: Export fields: Export most requested fields

Export to CSV

<< First < Prev 1 Next > Last >>

Report Number	Date of Incident	Incident City	Incident State	Mode of Transportation	Carrier/Reporter Name	Shipper Name	HMIS Serious Incident Ind	Total Hazmat Fatalities	Total Hazmat Injuries	Total Amou of Damag
I-1979081215	06/11/1979	OCILLA	GA	Highway	FLEET TRANSPORT CO INC	SONNY CAMPBELL'S GULF INC	Yes	0	0	

<< First < Prev 1 Next > Last >>

Irwin County Critical Facilities
Updated 2017

Id	Name	Juris-diction	Address	Facility Types	Risk	Occupancy	Building Value
3515	Grace Christian Academy	Irwin County	Hwy 32	Education, Private	Essential, Important, Vulnerable	Grade Schools and Admin. Offices	9386100.00
3346	Holt Fire Dept #4	Irwin County	County Rd 251	Emergency Services, Fire Fighters	Essential, Important	Government - Emergency	460800.00
3325	Irwin County Fire Department Station 01	Irwin County	GA Hwy 32	Emergency Services, Fire Fighters	Essential, Important	Government - Emergency	420000.00
3342	Irwin County Fire Department Station 04	Irwin County	Lax Hwy	Emergency Services, Fire Fighters	Essential, Important	Government - Emergency	346500.00
3322	Irwin County Volunteer Fire Department Station 02	Irwin County	Waterloo Hwy	Emergency Services, Fire Fighters	Essential, Important	Government - Emergency	360000.00
3447	Mystic Public Water Works	Irwin County	GA Hwy 32	Government, Water/Sewer	Essential, Lifeline, Hazardous Materials,	Government - General Services	27000.00
3433	Ocilla WWTP	Irwin County	US Hwy 129	Government, Water/Sewer	Essential, Lifeline, Hazardous Materials,	Government - General Services	340672.00
3324	Riverbend Volunteer Fire Department	Irwin County	Riverbend Church	Emergency Services, Fire Fighters	Essential, Important	Government - Emergency	547200.00
10086	ADAMA Corporation	Ocilla city	Hwy 129	NGO, NGO, Private, Private	Economic Assets, Hazardous Materials,	Food/Drugs/Chemicals	30427500.00
3519	Alternative Center	Ocilla city	310 Vo-Tech Rd	Education, K - 12	Essential, High Potential Loss,	Grade Schools and Admin. Offices	33656100.00
10088	Church of God	Ocilla city	294 Fitzgerald	NGO, Transportation	Essential, Important	Churches and Non-Profit Organizations	6370200.00
3446	City of Ocilla Water Treatment Plant	Ocilla city	117 N Elm St	Government, Water/Sewer	Essential, Lifeline, Hazardous Materials,	Government - General Services	1000.00
10084	Department of Family and Children Services	Ocilla city	108 N Irwin	Government, Government,	Important	Government - General Services	1042800.00
10035	Detention Center	Ocilla city	132 Cotton	Law Enforcement, Prisons	Essential, High Potential Loss,	Government - General Services	19029000.00
28689	Georgia State Forestry Unit	Ocilla city	703 Douglas	Government, Government Offices	Important	> 50 units	182881.00
28688	Georgia State Forestry Unit	Ocilla city	703 Douglas	Government, Government Offices	Important	> 50 units	182881.00

Irwin County Critical Facilities
Updated 2017

Id	Name	Juris-diction	Address	Facility Types	Risk	Occupancy	Building Value
10031	Health Department	Ocilla city	407 W 4th St	Government, Government,	Essential, Important	Government - General Services	1691400.00
3386	Irwin County Courthouse	Ocilla city	Irwin Ave	Government, Government, Court	Historic Consideration,	Government - General Services	3488400.00
1338	Irwin County Elementary School	Ocilla city	521 Lax Highway	Education, Education, K - 12, K - 12	Essential, High Potential Loss,	Grade Schools and Admin. Offices	26685600.00
10033	Irwin County EMS/EMA	Ocilla city	108 Cotton	Emergency Services, Emergency Services,	Essential, Lifeline	Government - Emergency	408000.00
3518	Irwin County High School and Middle School	Ocilla city	149 Chieftain	Education, K - 12	Essential, High Potential Loss,	Grade Schools and Admin. Offices	41892600.00
3487	Irwin County Hospital	Ocilla city	710 N. Irwin	Medical, Medical, EMS, EMS	Economic Assets, Essential, High	Hospital	14175000.00
3361	Irwin County Jail	Ocilla city	400 S Irwin	Law Enforcement, Law Enforcement,	Essential, High Potential Loss,	Government - General Services	3001500.00
3208	Irwin County Library	Ocilla city	310 South Beech	Education, Library	Important	Government - General Services	2091600.00
3411	Ocilla City Hall	Ocilla city	111 N Irwin	Government, Government,	Important	Government - General Services	814200.00
3319	Ocilla Fire Department	Ocilla city	216 E 5th St	Emergency Services, Fire Fighters	Essential, Important	Government - Emergency	1550400.00
10090	Ocilla Natural Gas Regulation Station	Ocilla city	1010 N Irwin	NGO, NGO, Government Offices,	Essential, Hazardous Materials, Important	Government - General Services	6962400.00
3265	Ocilla Police Department	Ocilla city	401 S Cherry	Law Enforcement, Law Enforcement,	Essential, High Potential Loss,	Government - Emergency	2989500.00
10036	Osceola Nursing Home	Ocilla city	209 W Hudson	Medical, Medical, Medical Offices,	High Potential Loss, Important,	Nursing Homes	8121600.00
10081	Palemon Gaskins Nursing Home	Ocilla city	201 Dismuke	Medical, Medical, Medical Offices,	High Potential Loss, Important,	Nursing Homes	3834900.00
10029	Senior Citizen Center	Ocilla city	416 W 4th St	Medical, Medical, Medical Offices,	Important, Vulnerable	Government - General Services	1521900.00
10034	Tax Office	Ocilla city	202 S Irwin	Law Enforcement, Law Enforcement,	Important	Government - General Services	1099200.00

Appendix G

Hazard Risk Analyses
Supplement to the Irwin County
Joint Hazard Mitigation Plan

Southern Georgia
Regional Commission

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Introduction

The Federal Disaster Mitigation Act of 2000 (DMA2K) requires state, local, and tribal governments to develop and maintain a mitigation plan to be eligible for certain federal disaster assistance and hazard mitigation funding programs.

Mitigation seeks to reduce a hazard's impacts, which may include loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation must be based on a sound risk assessment that quantifies the potential losses of a disaster by assessing the vulnerability of buildings, infrastructure, and people.

In recognition of the importance of planning in mitigation activities, FEMA Hazus-MH, a powerful disaster risk assessment tool based on geographic information systems (GIS). This tool enables communities of all sizes to predict estimated losses from floods, hurricanes, earthquakes, and other related phenomena and to measure the impact of various mitigation practices that might help reduce those losses.

In 2018, the Georgia Department of Emergency Management partnered with The Southern Georgia Regional Commission (SGRC) to develop a detailed risk assessment focused on defining hurricane, riverine flood and tornado impacts for Georgia. This assessment identifies the characteristics and potential consequences of the disaster, how much of the community could be affected by the disaster, and the impact on community assets. In the following years, the Georgia Association of Regional Commissions (GARC) are utilizing this workflow to define impacts in other counties in Georgia. This document provides the results for Irwin County.

Risk Assessment Process Overview

Hazus-MH Version 2.2 SP1 was used to perform the analyses for Irwin County. The Hazus-MH application includes default data for every county in the US. This Hazus-MH data was derived from a variety of national sources and in some cases the data are also several years old. Whenever possible, using local provided data is preferred. Irwin County provided building inventory information from the county's property tax assessment system. This section describes the changes made to the default Hazus-MH inventory and the modeling parameters used for each scenario.

County Inventory Changes

The default Hazus-MH site-specific point inventory was updated using data compiled from the Georgia Emergency Management Agency (GEMA). The default Hazus-MH aggregate inventory (General Building Stock) was also updated prior to running the scenarios. Reported losses reflect the updated data sets.

General Building Stock Updates

General Building Stock (GBS) is an inventory category that consists of aggregated data (grouped by census geography — tract or block). Hazus-MH generates a combination of site-specific and aggregated loss estimates based on the given analysis and user input.

The GBS records for Irwin County were not replaced with data derived from parcel and property assessment data obtained from Irwin County. The county provided property assessment data was current as of March 2018 and the parcel data current as of March 2018. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary; then, each parcel point was linked to an assessor record based upon matching parcel numbers. The parcel assessor match-rate for Irwin County is 65.7%. Since Irwin County's parcel assessor match-rate is below the threshold of 85%, the default HAZUS GBS was used for analysis.

For Irwin County, the GBS was used to calculate hurricane wind losses. The flood losses and tornado losses were calculated from building inventory modeled in Hazus-MH as User-Defined Facility (UDF)[1], or site-specific points. Figure 1 shows the distribution of buildings as points based on the county provided data.

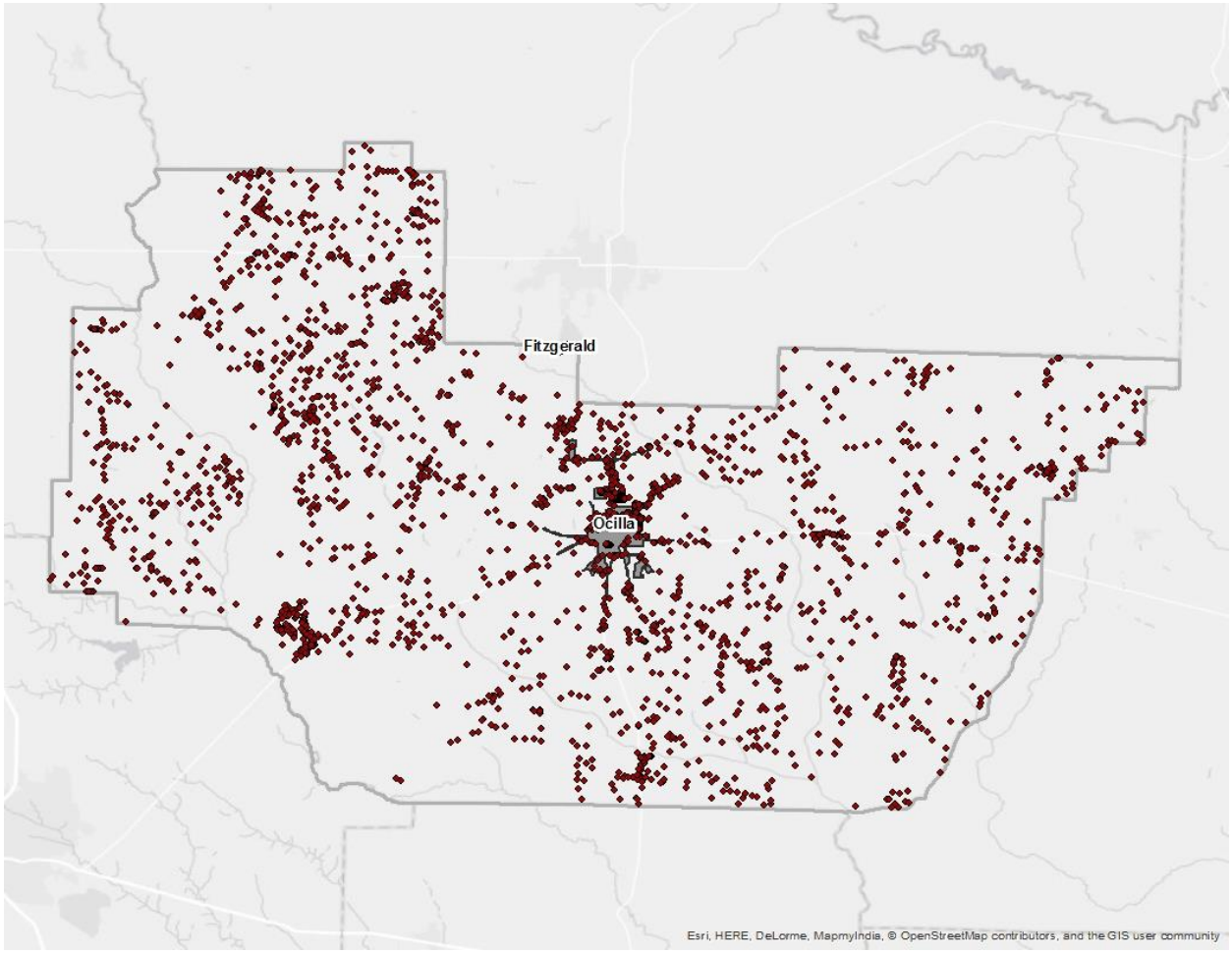

Figure 1: Irwin County Overview

[1] The UDF inventory category in Hazus-MH allows the user to enter site-specific data in place of GBS data.

Essential Facility Updates

The default Hazus-MH essential facility data was updated to reflect improved information available in the Georgia Mitigation Information System (GMIS). For these risk analyses, only GMIS data for buildings that Hazus-MH classified as Essential Facilities was integrated into Hazus-MH because the application provides specialized reports for these five types of facilities. Essential Facility inventory was updated for the analysis conducted for this report. The following table summarizes the counts and exposures, where available, by Essential Facility classification of the updated data for the county.

Essential facilities include:

- Care facilities
- EOCs
- Fire stations
- Police stations
- Schools

Table 1: Updated Essential Facilities

Classification	Updated Count	Updated Exposure
Irwin County		
EOC	1	$ 880,000
Care	3	$ 26,130,000
Fire	6	$ 3,683,000
Police	1	$ 2,989,000
School	4	$ 111,619,000
Total	**15**	**$ 145,301,000**

Classification	Updated Count	Updated Exposur
Ocilla		
EOC	1	$ 880,000
Care	3	$ 26,130,000
Fire	1	$ 1,550,000
Police	1	$ 2,989,000
School	3	$ 102,233,000
Total	**9**	**$ 133,782,000**

Classification	Updated Count	Updated Exposure
Fitzgerald		
EOC	0	$ -
Care	0	$ -
Fire	0	$ -
Police	0	$ -
School	0	$ -
Total	**0**	**$ -**

Assumptions and Exceptions

Hazus-MH loss estimates may be impacted by certain assumptions and process variances made in this risk assessment.

- The Irwin County analysis used Hazus-MH Version 2.2 SP1, which was released by FEMA in May 2015.
- County provided parcel and property assessment data may not fully reflect all buildings in the county. For example, some counties do not report not-for-profit buildings such as government buildings, schools and churches in their property assessment data. This data was used to update the General Building Stock as well as the User Defined Facilities applied in this risk assessment.
- GBS updates from assessor data will skew loss calculations. The following attributes were defaulted or calculated:
    - Foundation Type was set from Occupancy Class
    - First Floor Height was set from Foundation Type
    - Content Cost was calculated from Replacement Cost
- It is assumed that the buildings are located at the centroid of the parcel unless building footprints are used. For this analysis of Irwin County, parcel centroids were used.
- The essential facilities extracted from the GMIS were only used in the portion of the analysis designated as essential facility damage. They were not used in the update of the General Building Stock or the User Defined Facility inventory.

The hazard models included in this risk assessment included:

- Hurricane assessment which was comprised of a wind only damage assessment
- Flood assessment based on the 1% annual chance event that includes riverine assessments
- Tornado assessment based on GIS modeling

Hurricane Risk Assessment

Hazard Definition

The National Hurricane Center describes a hurricane as a tropical cyclone in which the maximum sustained wind is, at minimum, 74 miles per hour (mph)[2]. The term hurricane is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term typhoon is used for Pacific tropical cyclones north of the Equator west of the International Dateline. Hurricanes in the Atlantic Ocean, Gulf of Mexico, and Caribbean form between June and November with the peak of hurricane season occurring in the middle of September. Figure 2 shows that many hurricanes have impacted the Atlantic and Gulf coasts of the United States.

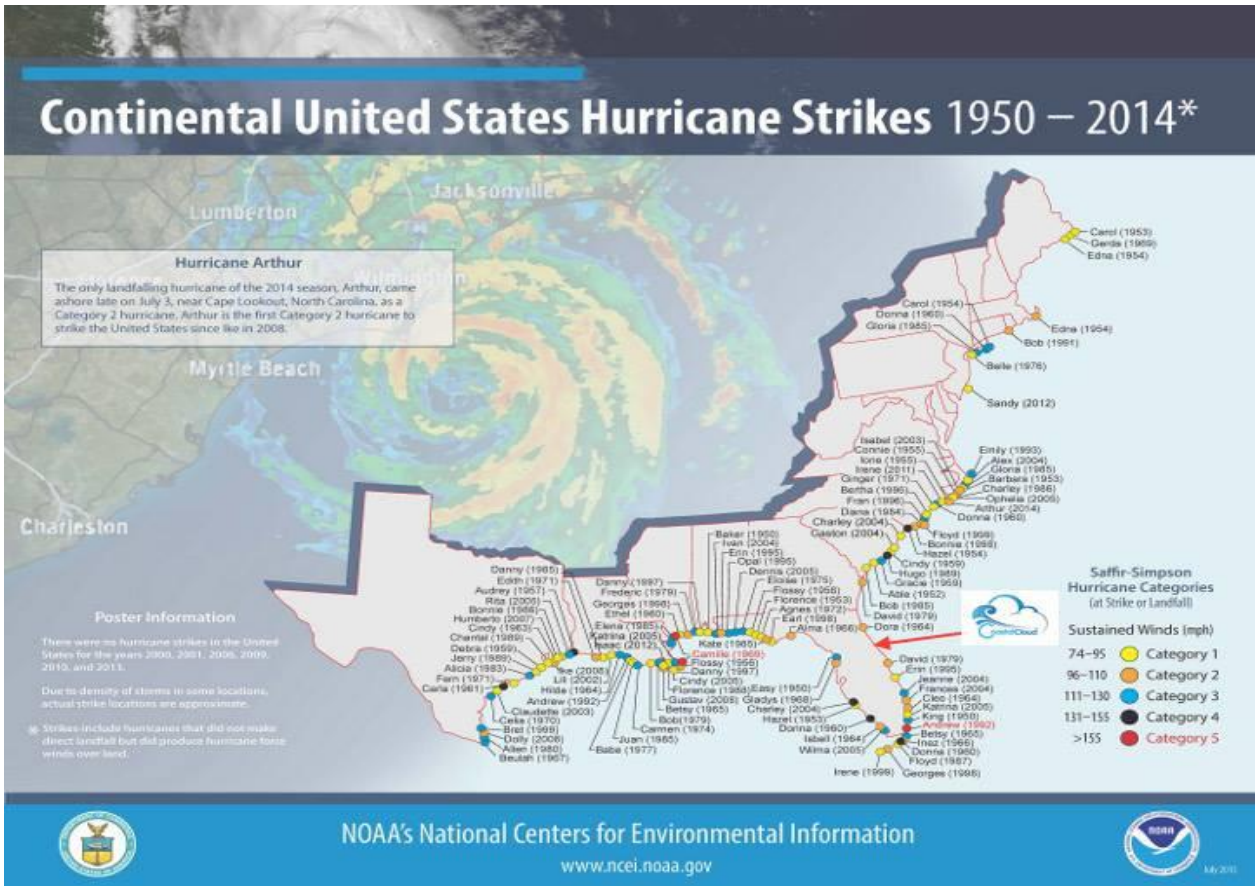

Figure 2: Continental United States Hurricane Strikes: 1950 to 2014[3]

Hurricane intensities are measured using the Saffir-Simpson Hurricane Wind Scale (Table 2). This scale is a 1 to 5 categorization based on the hurricane's intensity at the indicated time.

[2] National Hurricane Center (2011). "Glossary of NHC Terms." National Oceanic and Atmospheric Administration. http://www.nhc.noaa.gov/aboutgloss.shtml#h. Retrieved 2-23-2012.

[3] Source: NOAA National Climatic Data Center

Table 2: Saffir-Simpson Hurricane Wind Scale

Category	Wind Speed (mph)	Damage
1	74 – 95	Very dangerous winds will produce some damage
2	96 – 110	Extremely dangerous winds will cause extensive damage
3	111 - 130	Devastating damage will occur
4	131 -155	Catastrophic damage will occur
5	> 155	Catastrophic damage will occur

Hurricanes bring a complex set of impacts. The winds from a hurricane produce a rise in the water level at landfall called storm surge. Storm surges produce coastal flooding effects that can be as damaging as the hurricane's winds. Hurricanes bring very intense inland riverine flooding. Hurricanes can also produce tornadoes that can add to the wind damages inland. In this risk assessment, only hurricane winds, and coastal storm surge are considered.

The National Oceanic and Atmospheric Administration's National Hurricane Center created the HURDAT database, which contains all of the tracks of tropical systems since the mid-1800s. This database was used to document the number of tropical systems that have affected Irwin County by creating a 20-mile buffer around the county to include storms that didn't make direct landfall in Irwin County but impacted the county. Since 1851, Irwin County has had 62 tropical systems within 20 miles of its county borders (Table 4).

Table 3: Tropical Systems affecting Irwin County

Year	Month	Day	Name	Wind (Knots)	Category
1851	August	24	NOTNAMED	70	H1
1852	October	10	NOTNAMED	80	H1
1852	October	10	NOTNAMED	60	TS
1856	August	31	NOTNAMED	70	H1
1860	August	13	NOTNAMED	40	TS
1860	August	13	NOTNAMED	40	TS
1871	August	23	NOTNAMED	50	TS
1871	August	23	NOTNAMED	40	TS
1873	June	2	NOTNAMED	40	TS
1877	October	3	NOTNAMED	70	H1
1877	October	3	NOTNAMED	50	TS
1881	August	28	NOTNAMED	50	TS
1886	June	21	NOTNAMED	65	H1
1886	July	1	NOTNAMED	70	H1
1894	October	9	NOTNAMED	85	H2
1894	October	9	NOTNAMED	70	H1
1898	October	2	NOTNAMED	90	H2
1898	October	3	NOTNAMED	65	H1
1902	June	15	NOTNAMED	40	TS
1904	November	3	NOTNAMED	30	TD
1907	September	29	NOTNAMED	40	TS
1909	July	2	NOTNAMED	25	TD
1909	July	2	NOTNAMED	25	TD
1911	August	5	NOTNAMED	20	TD
1911	August	29	NOTNAMED	35	TS
1911	August	29	NOTNAMED	30	TD
1912	July	15	NOTNAMED	40	TS
1912	July	16	NOTNAMED	40	TS
1912	September	6	NOTNAMED	25	TD
1916	October	4	NOTNAMED	50	TS
1917	September	29	NOTNAMED	40	TS
1917	September	30	NOTNAMED	35	TS
1919	October	1	NOTNAMED	35	TS
1919	October	1	NOTNAMED	30	TD
1923	June	27	NOTNAMED	30	TD
1929	October	1	NOTNAMED	45	TS
1933	September	6	NOTNAMED	40	TS
1933	September	6	NOTNAMED	35	TS
1933	September	6	NOTNAMED	35	TS
1935	September	5	NOTNAMED	60	TS
1947	October	15	NOTNAMED	65	H1
1947	October	16	NOTNAMED	50	TS
1949	August	28	NOTNAMED	50	TS
1949	August	28	NOTNAMED	45	TS
1950	September	7	EASY	35	TS
1953	September	27	FLORENCE	50	E
1956	September	25	FLOSSY	40	TS
1964	September	12	DORA	35	TS
1964	September	12	DORA	35	TS
1985	November	22	KATE	80	H1
1985	November	22	KATE	65	H1
1986	August	13	CHARLEY	10	SD
1986	August	14	CHARLEY	10	SD
1987	August	16	NOTNAMED	10	TD
1987	August	17	NOTNAMED	10	TD
1990	October	12	MARCO	20	TD
1995	June	5	ALLISON	45	TS
1995	June	6	ALLISON	30	TD
1995	October	26	JERRY	20	TD
1998	September	3	EARL	45	TS
2004	September	27	JEANNE	35	TS
2005	October	6	TAMMY	35	TS

Category Definitions:
TS – Tropical storm
TD – Tropical depression
CAT_1 – Category 1 (same format for 2, 3, 4 and 5)
E – Extra-tropical cyclone

Probabilistic Hurricane Scenario

The following probabilistic wind damage risk assessment modeled a Category 1 storm with maximum winds of 79 mph.

Wind Damage Assessment

Wind losses were determined from probabilistic models run for the Category 1 storm which equates to the 1% chance storm event. Figure 3 shows wind speeds for the modeled hurricane.

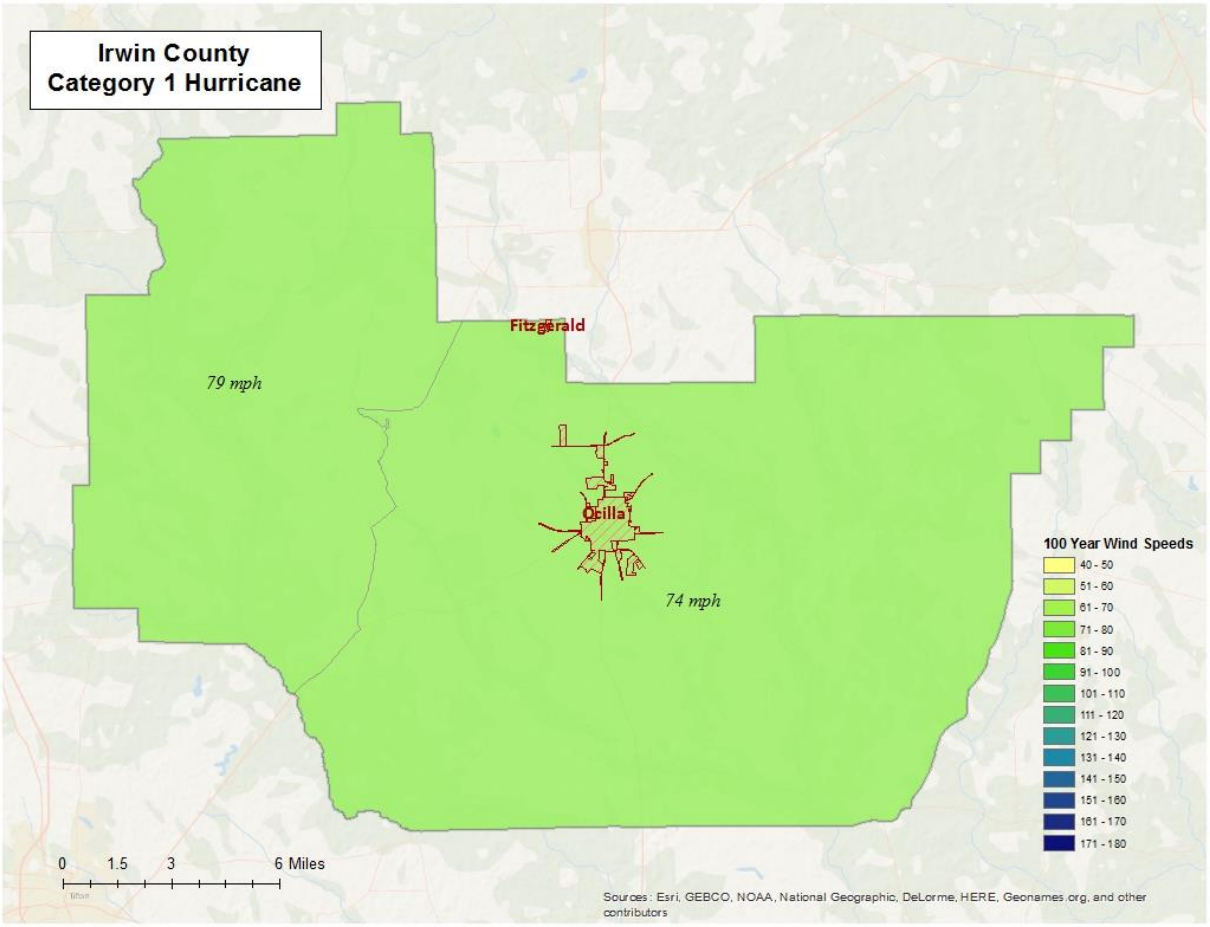

Figure 3: Wind Speeds by Storm Category

Wind-Related Building Damages

Buildings in Irwin County are vulnerable to storm events, and the cost to rebuild may have significant consequences to the community. The following table shows a summary of the results of wind-related building damage in Irwin County for the Category 1 (100 Year Event) storm. The loss ratio expresses building losses as a percentage of total building replacement cost in the county. Figure 4 illustrates the building loss ratios of the modeled Category 1 storm.

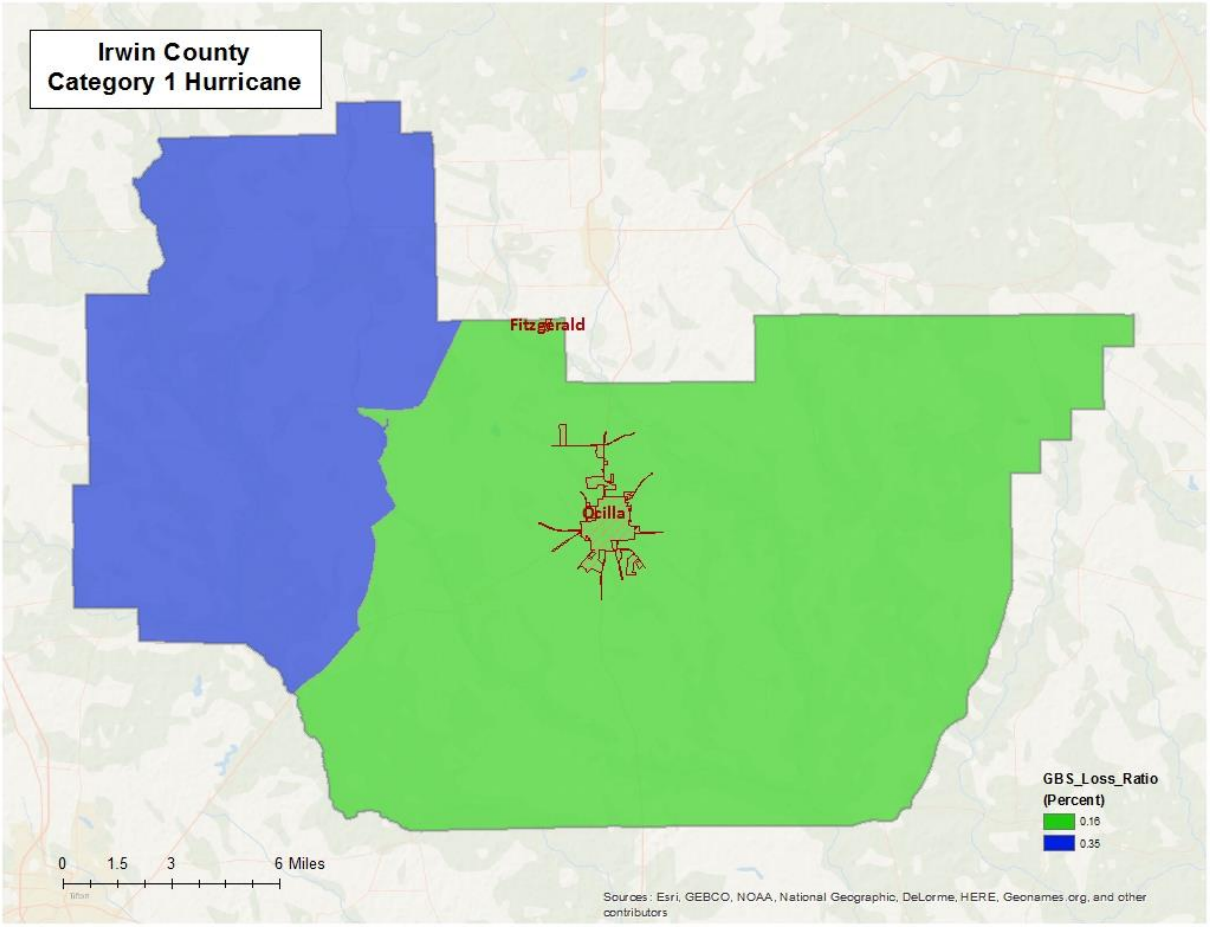

Figure 4: Hurricane Wind GBS Loss Ratios

Table 4 shows the Hurricane Wind Building Damage results including the number of buildings damaged, total building damage, and economic loss.

Table 4: Hurricane Wind Building Damage

Storm Classification	Number of Damaged Buildings	Building Damages	Total Economic Loss	Loss Ratio
Category 1	30	$ 1,604,420	$ 2,167,300	0.21

Essential Facility Losses

Essential facilities are also vulnerable to storm events, and the potential loss of functionality may have significant consequences to the community. Hazus-MH identified the essential facilities that may be moderately or severely damaged by winds. The results are compiled in Table 5.

There are 15 essential facilities in Irwin County.

Classification	Number
EOC	1
Care	3
Fire	6
Police	1
School	4
Total	**15**

Table 5: Wind-Damaged Essential Facility Losses

Storm Classification	Facilities Moderately Damaged (>50%)	Facilities Completely Damaged (>50%)	Facilities with expected loss (<1day)
Category 1	0	0	15

Shelter Requirements

Hazus-MH estimates the number of households evacuated from buildings with severe damage from high velocity winds as well as the number of people who will require short-term sheltering. The results are listed in Table 6 and mapped in Figure 5.

Table 6: Displaced Households and People

Storm Classification	# of Displaced Households	# of People Needing Short-Term Shelter
Category 1	0	0

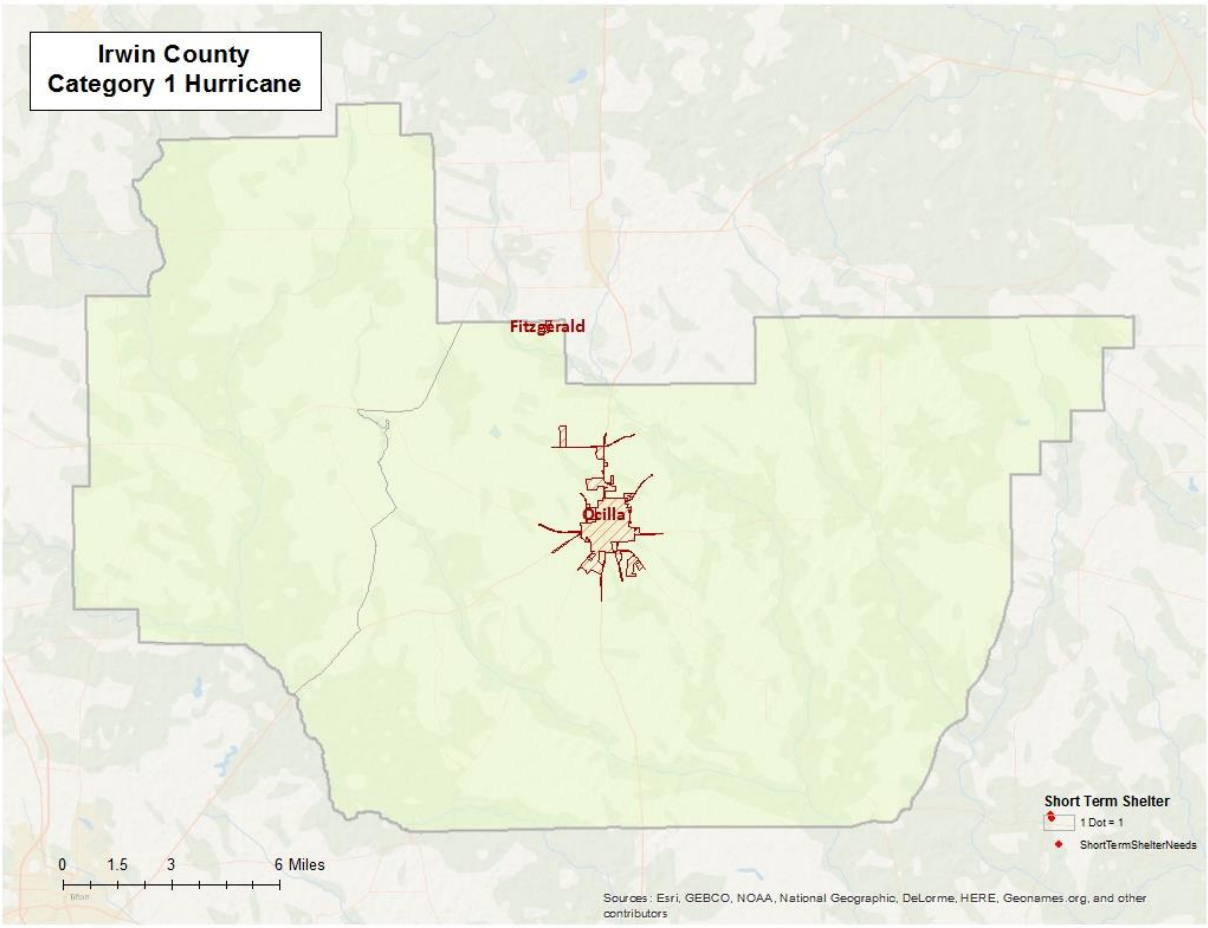

Figure 5: Hurricane Wind Shelter Requirements

Debris Generated from Hurricane Wind

Hazus-MH estimates the amount of debris that will be generated by high velocity hurricane winds and quantifies it into three broad categories to determine the material handling equipment needed:

- Reinforced Concrete and Steel Debris
- Brick and Wood and Other Building Debris
- Tree Debris

Different material handling equipment is required for each category of debris. The estimates of debris for this scenario are listed in Table 7. The amount of hurricane wind related tree debris that is estimated to require pick up at the public's expense is listed in the eligible tree debris column.

Table 7: Wind-Related Debris Weight (Tons)

Storm Classification	Brick, Wood, and Other	Reinforced Concrete/Steel	Tree Debris	Other Tree Debris	Total
Category 1	108	-	2,134	48,143	50,385

Figure 6 shows the distribution of all wind related debris resulting from a Category 1 hurricane. Each dot represents 20 tons of debris within the census tract in which it is located. The dots are randomly distributed within each census tract and therefore do not represent the specific location of debris sites.

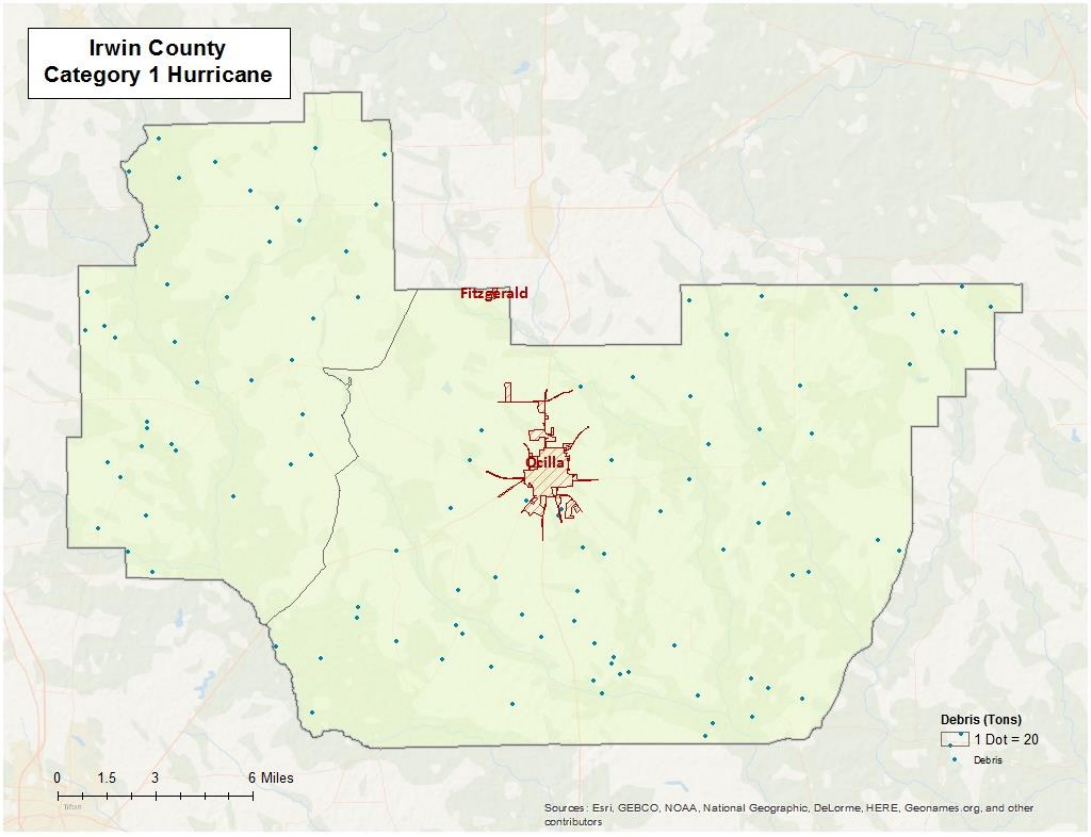

Figure 6: Wind-Related Debris Weight (Tons)

Flood Risk Assessment

Hazard Definition

Flooding is a significant natural hazard throughout the United States. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area, the rate at which precipitation infiltrates the ground, the geometry and hydrology of the catchment, and flow dynamics and conditions in and along the river channel. Floods can be classified as one of three types: upstream floods, downstream floods, or coastal floods.

Upstream floods, also called flash floods, occur in the upper parts of drainage basins and are generally characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, upstream floods cause damage over relatively localized areas, but they can be quite severe in the local areas in which they occur. Urban flooding is a type of upstream flood. Urban flooding involves the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid snowmelt. Upstream or flash floods can occur at any time of the year in Georgia, but they are most common in the spring and summer months.

Downstream floods, also called riverine floods, refer to floods on large rivers at locations with large upstream catchments. Downstream floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and time of the flood peak is much longer for downstream floods than for upstream floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage.

Coastal floods occurring on the Atlantic and Gulf coasts may be related to hurricanes or other combined offshore, nearshore, and shoreline processes. The effects of these complex interrelationships vary significantly across coastal settings, leading to challenges in the determination of the base (1-percent-annual-chance) flood for hazard mapping purposes. Land area covered by floodwaters of the base flood is identified as a Special Flood Hazard Area (SFHA). The Irwin County flood risk assessment analyzed at risk structures in the SFHA.

The SFHA is the area where the National Flood Insurance Program's (NFIP) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. The owner of a structure in a high-risk area must carry flood insurance, if the owner carries a mortgage from a federally regulated or insured lender or servicer.

The following probabilistic risk assessment involves an analysis of a 1% annual chance riverine flood event.

Riverine 1% Flood Scenario

Riverine losses were determined from the 1% flood boundaries downloaded from the FEMA Flood Map Service Center in April 2018. The flood boundaries were overlaid with the USGS 10 meter DEM using the Hazus-MH Enhanced Quick Look tool to generate riverine depth grids. The riverine flood depth grid was then imported into Hazus-MH to calculate the riverine flood loss estimates. Figure 7 illustrates the riverine inundation boundary associated with the 1% annual chance. Please note that the riverine flooding may not take into account elevated housing or raised Base Flood Elevation.

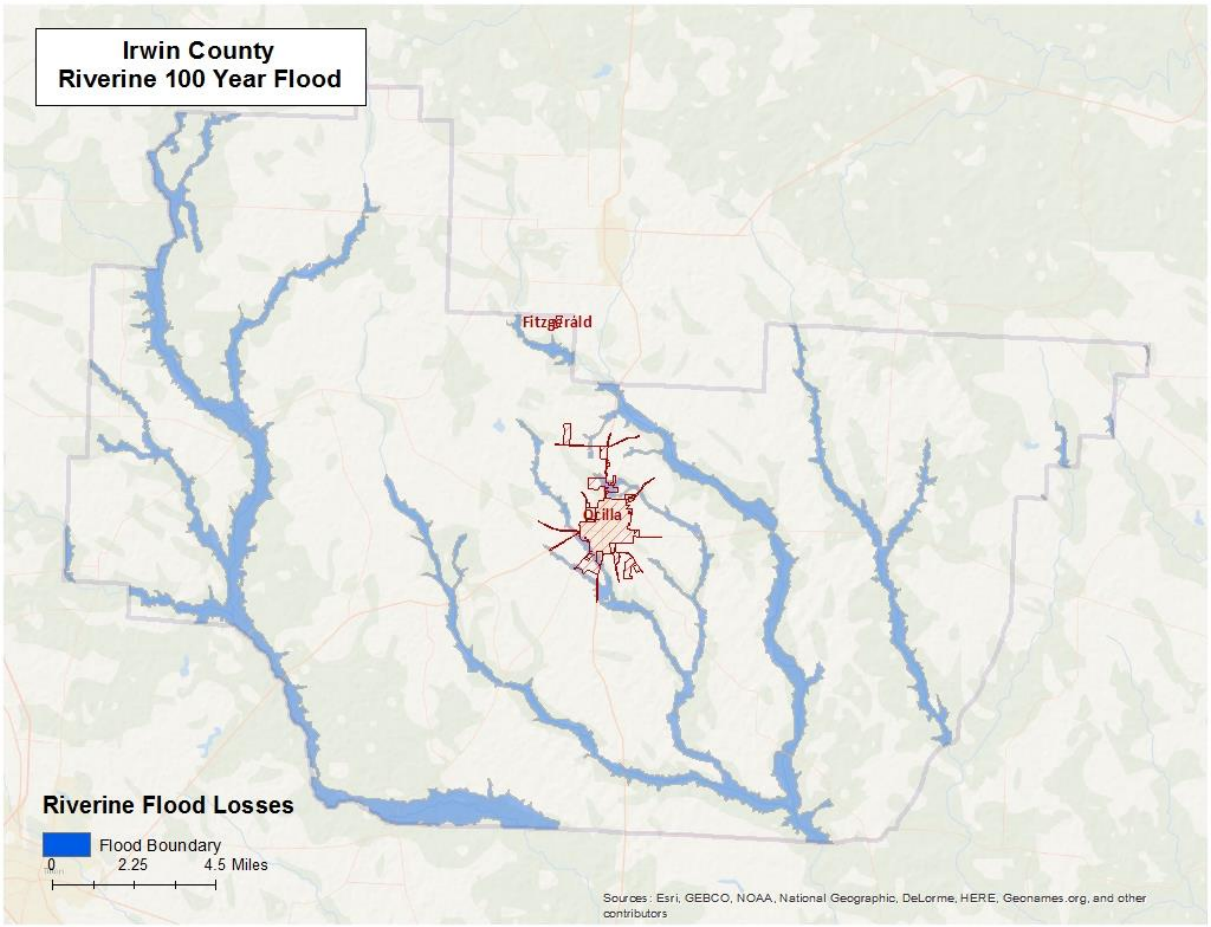

Figure 7: Riverine 1% Flood Inundation

Riverine 1% Flood Building Damages

Buildings in Irwin County are vulnerable to flooding from events equivalent to the 1% riverine flood. The economic and social impacts from a flood of this magnitude can be significant. Table 8 provides a summary of the potential flood-related building damage in Irwin County by jurisdiction that might be experienced from the 1% flood. Figure 8 maps the potential loss ratios of total building exposure to losses sustained to buildings from the 1% flood by 2010 census block and Figure 9 illustrates the relationship of building locations to the 1% flood inundation boundary.

Table 8: Irwin County Riverine 1% Building Losses

Occupancy Classification	Total Buildings	Total Buildings Damaged	Total Building Exposure	Total Losses to Buildings	Loss Ratio of Exposed to Damaged
Ocilla					
Residential	290	31	$ 49,653,731	$ 2,186,477	4.40%
Unincorporated					
Residential	2,631	13	$ 299,490,741	$ 365,725	0.12%
Commercial	46	1	$ 22,120,213	$ 102,196	0.46%
County Total					
Total	2,967	45	371,264,685	2,654,398	

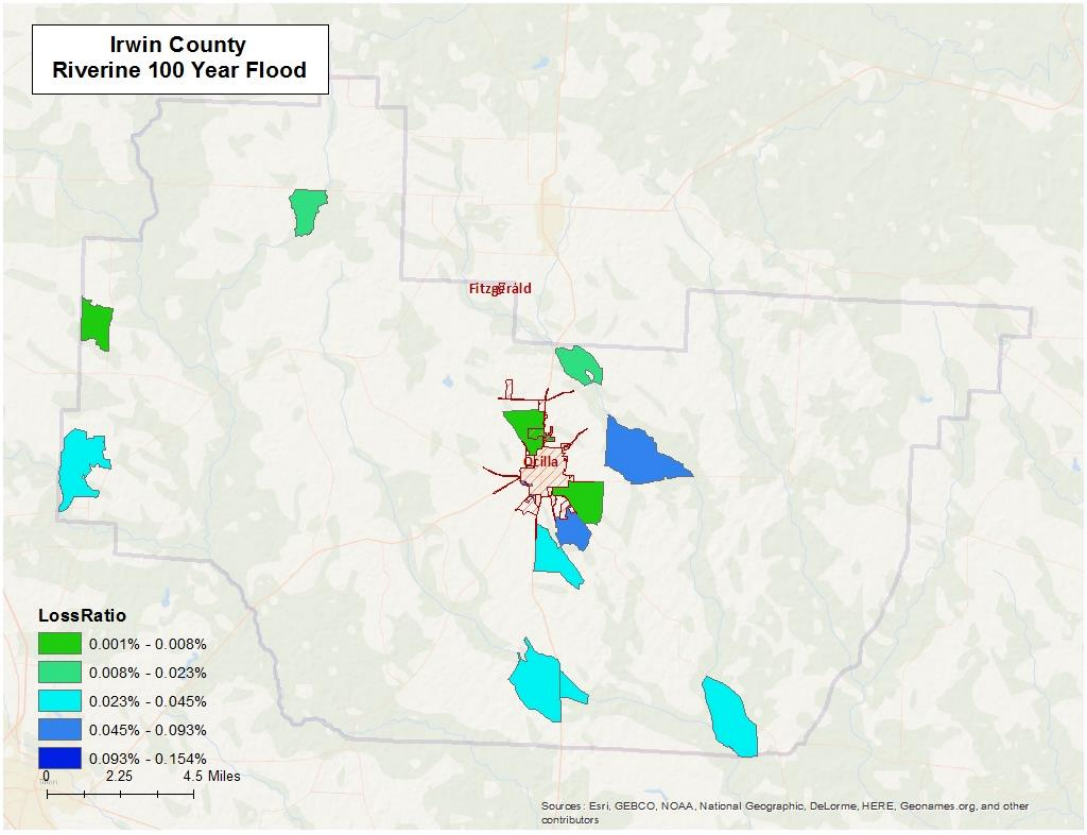

Figure 8: Potential UDF Loss Ratios from the 1% Riverine Flood

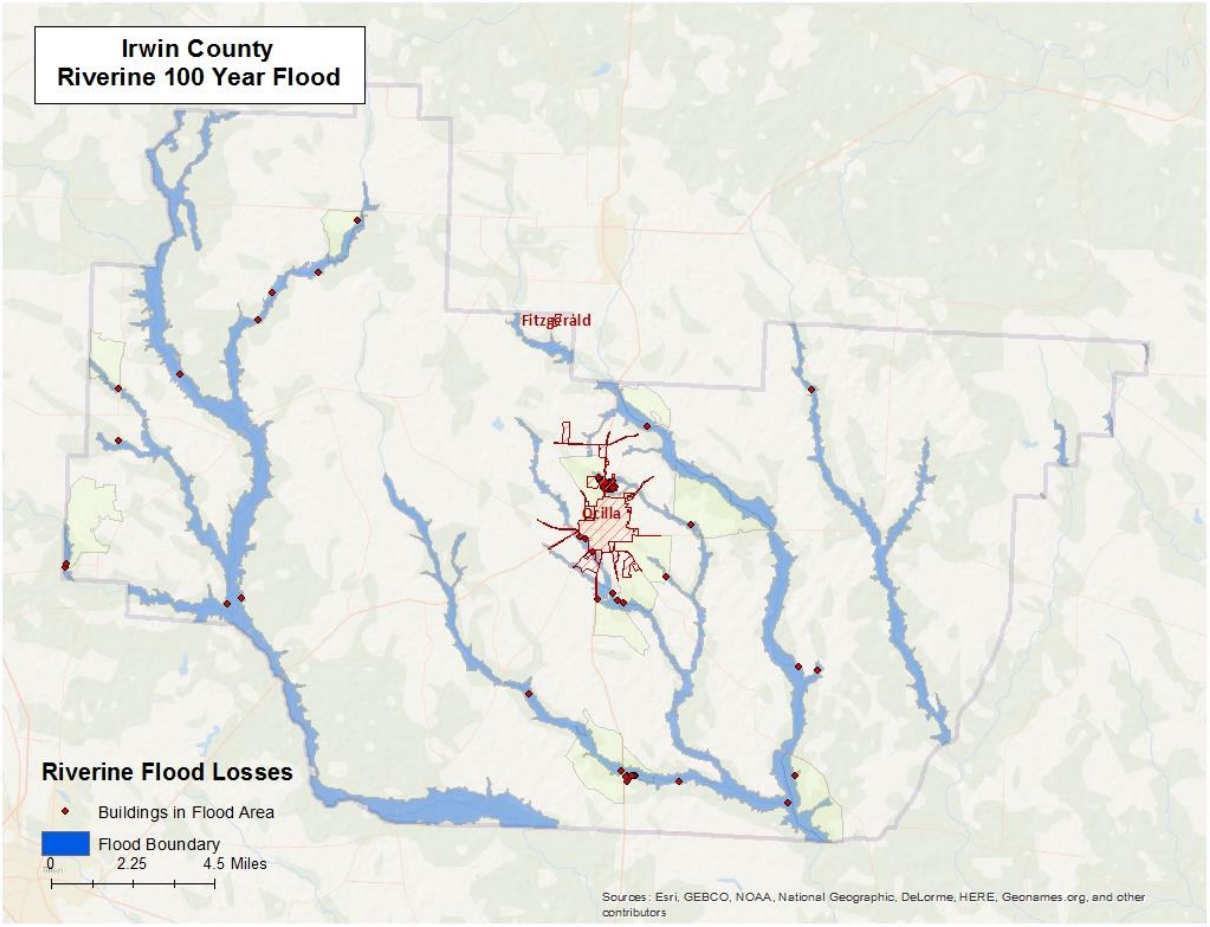

Figure 9: Damaged Buildings in 1% Riverine Flood

Riverine 1% Flood Essential Facility Losses

An essential facility may encounter many of the same impacts as other buildings within the flood boundary. These impacts can include structural failure, extensive water damage to the facility and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). The analysis has identified that were 0 Essential Facilities subject to damage in the Irwin County riverine 1% probability floodplain.

Table 9: Expected Damage to Essential Facilities in 1% Riverine Flood

Classification	Total	Moderate	Substantial	Loss of Use
Fire Station	6	0	0	0
Hospitals	3	0	0	0
Police Stations	1	0	0	0
Schools	4	0	0	0
EOCs	1	0	0	0

Riverine 1% Flood Shelter Requirements

Hazus-MH estimates that the number of households that are expected to be displaced from their homes due to riverine flooding and the associated potential evacuation. The model estimates 210 households might be displaced due to the flood. Displacement includes households evacuated within or very near to the inundated area. Displaced households represent 630 individuals, of which 190 may require short term publicly provided shelter. The results are mapped in Figure 10. These numbers may be overestimated for two reasons: elevated housing not taken into account and parcel centroids (not aligned exactly with actual structures).

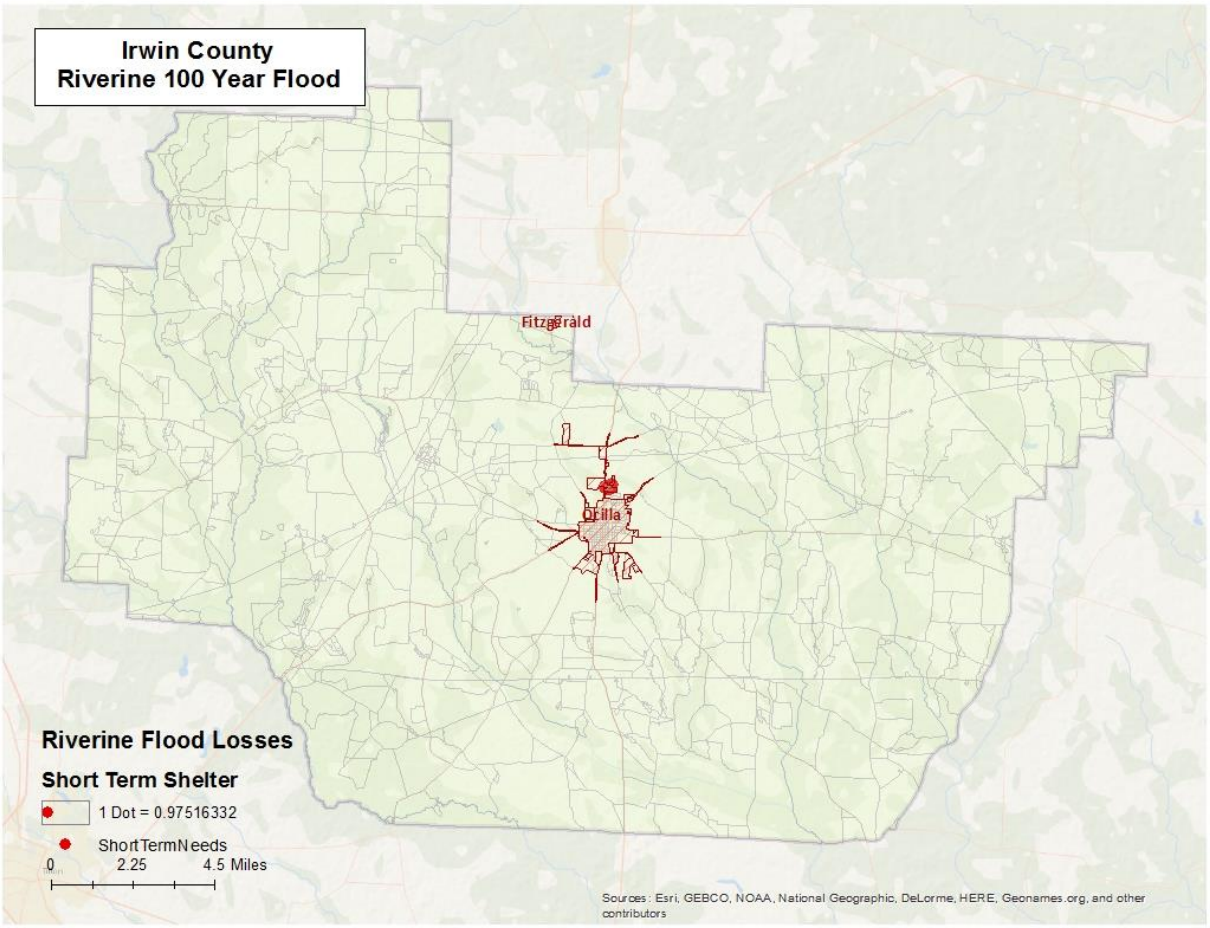

Figure 10: Estimated Flood Shelter Requirements in 1% Riverine Flood

Riverine 1% Flood Debris

Hazus-MH estimates the amount of debris that will be generated by the flood. The model breaks debris into three general categories:

- Finishes (dry wall, insulation, etc.)
- Structural (wood, brick, etc.)
- Foundations (concrete slab, concrete block, rebar, etc.)

Different types of material handling equipment will be required for each category. Debris definitions applied in Hazus-MH are unique to the Hazus-MH model and so do not necessarily conform to other definitions that may be employed in other models or guidelines.

The analysis estimates that an approximate total of 1,331 tons of debris might be generated: 1) Finishes – 602 tons; 2) Structural - 236 tons; and 3) Foundations- 493 tons. The results are mapped in Figure 11.

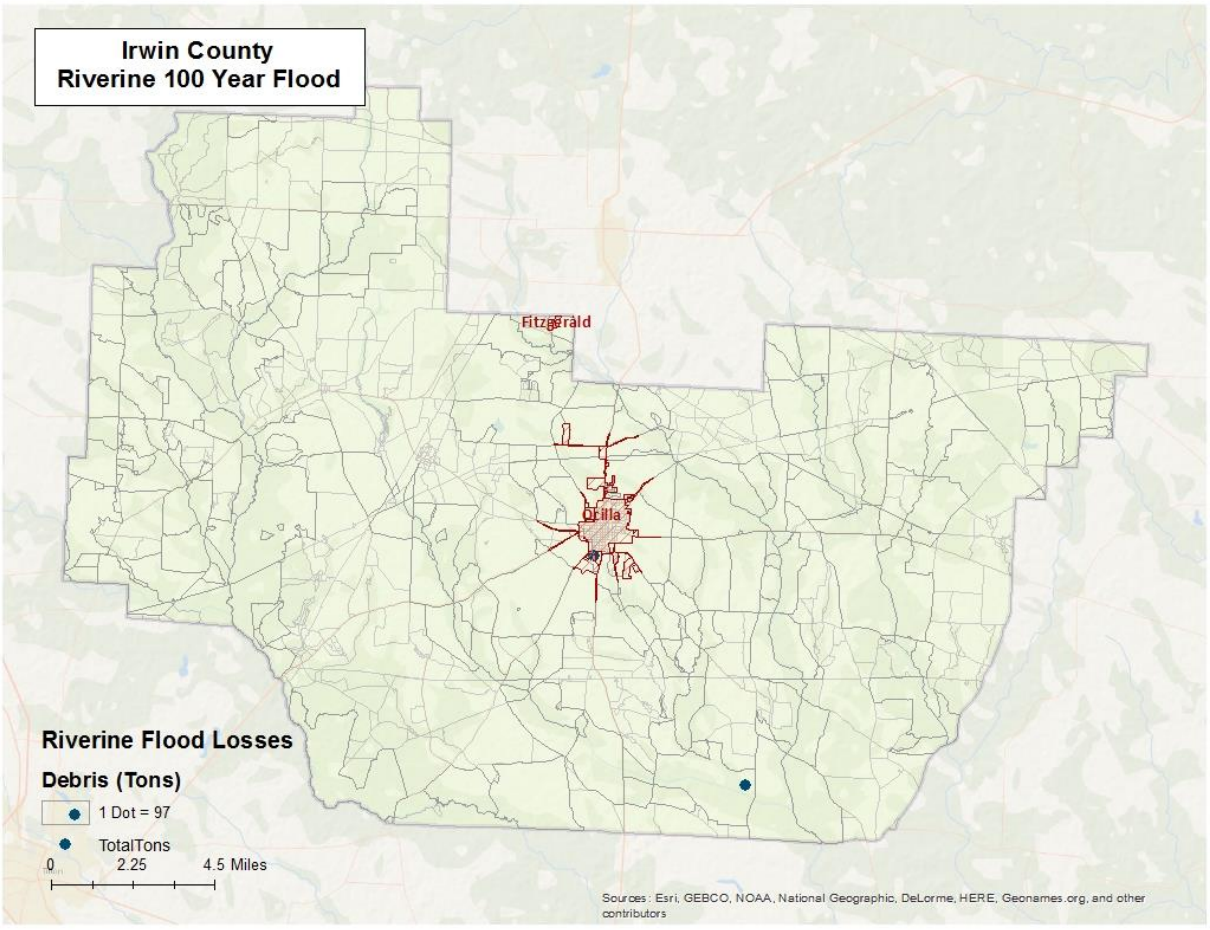

Figure 11: Flood Debris Weight (Tons) in 1% Riverine Flood

Tornado Risk Assessment

Hazard Definition

Tornadoes pose a great risk to the state of Georgia and its citizens. Tornadoes can occur at any time during the day or night. They can also happen during any month of the year. The unpredictability of tornadoes makes them one of Georgia's most dangerous hazards. Their extreme winds are violently destructive when they touch down in the region's developed and populated areas. Current estimates place the maximum velocity at about 300 miles per hour, but higher and lower values can occur. A wind velocity of 200 miles per hour will result in a wind pressure of 102.4 pounds per square foot of surface area—a load that exceeds the tolerance limits of most buildings. Considering these factors, it is easy to understand why tornadoes can be so devastating for the communities they hit.

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms and cyclonic events. Funnel clouds are rotating columns of air not in contact with the ground; however, the violently-rotating column of air can reach the ground very quickly and become a tornado. If the funnel cloud picks up and blows debris, it has reached the ground and is a tornado.

Tornadoes are classified according to the Fujita tornado intensity scale. Originally introduced in 1971, the scale was modified in 2006 to better define the damage and estimated wind scale. The Enhanced Fujita Scale ranges from low intensity EF0 with effective wind speeds of 65 to 85 miles per hour, to EF5 tornadoes with effective wind speeds of over 200 miles per hour. The Enhanced Fujita intensity scale is included in Table 10.

Table 10: Enhanced Fujita Tornado Rating

Fujita Number	Estimated Wind Speed	Path Width	Path Length	Description of Destruction
EF0 *Gale*	65-85 mph	6-17 yards	0.3-0.9 miles	Light damage, some damage to chimneys, branches broken, sign boards damaged, shallow-rooted trees blown over.
EF1 *Moderate*	86-110 mph	18-55 yards	1.0-3.1 miles	Moderate damage, roof surfaces peeled off, mobile homes pushed off foundations, attached garages damaged.
EF2 *Significant*	111-135 mph	56-175 yards	3.2-9.9 miles	Considerable damage, entire roofs torn from frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted.
EF3 *Severe*	136-165 mph	176-566 yards	10-31 miles	Severe damage, walls torn from well-constructed houses, trains overturned, most trees in forests uprooted, heavy cars thrown about.
EF4 *Devastating*	166-200 mph	0.3-0.9 miles	32-99 miles	Complete damage, well-constructed houses leveled, structures with weak foundations blown off for some distance, large missiles generated.
EF5 *ncredible*	Over 200 mph	1.0-3.1 miles	100-315 miles	Foundations swept clean, automobiles become missiles and thrown for 100 yards or more, steel-reinforced concrete structures badly damaged.

Source: http://www.srh.noaa.gov

Hypothetical Tornado Scenario

For this report, an EF3 tornado was modeled to illustrate the potential impacts of tornadoes of this magnitude in the county. The analysis used a hypothetical path based upon an EF3 tornado event running along the predominant direction of historical tornados (southeast to northwest). The tornado path was placed to travel through Ocilla. The selected widths were modeled after a re-creation of the Fujita-Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these categories. Table 11 depicts tornado path widths and expected damage.

Table 11: Tornado Path Widths and Damage Curves

Enhanced Fujita Scale	Path Width (feet)	Maximum Expected Damage
EF5	2,400	100%
EF4	1,800	100%
EF3	1,200	80%
EF2	600	50%
EF1	300	10%

Within any given tornado path there are degrees of damage. The most intense damage occurs within the center of the damage path, with decreasing amounts of damage away from the center. After the hypothetical path is digitized on a map, the process is modeled in GIS by adding buffers (damage zones) around the tornado path. Figure 12 describes the zone analysis.

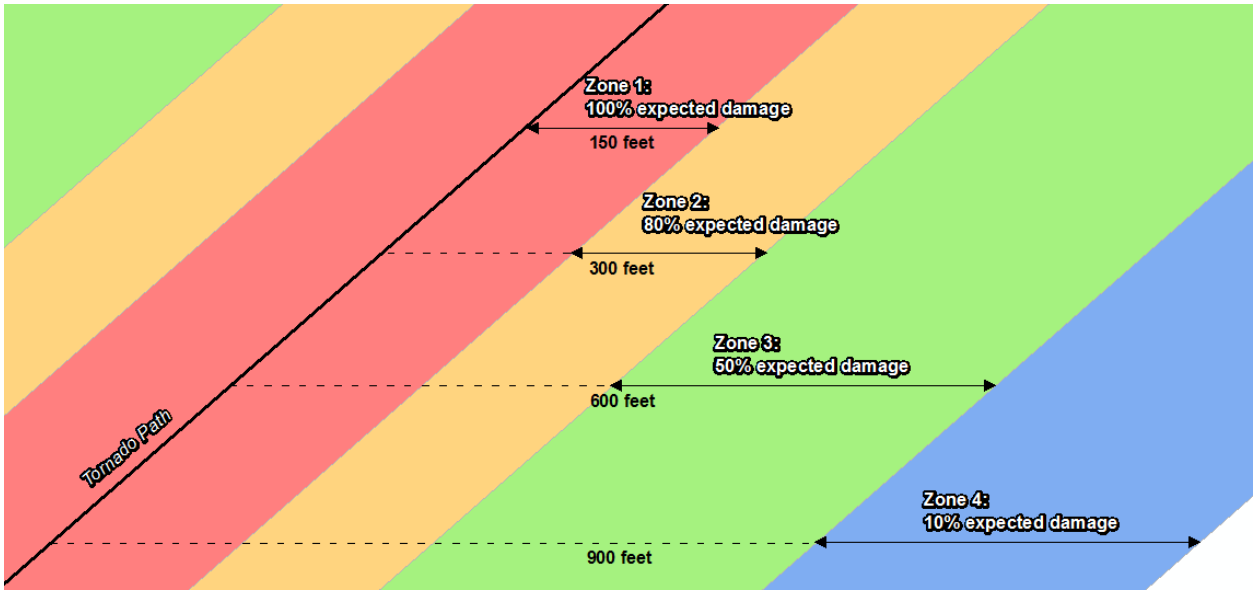

Figure 12: EF Scale Tornado Zones

An EF3 tornado has four damage zones, depicted in Table 12. Major damage is estimated within 150 feet of the tornado path. The outer buffer is 900 feet from the tornado path, within which buildings will not experience any damage. The selected hypothetical tornado path is depicted in Figure 13 and the damage curve buffer zones are shown in Figure 14.

Table 12: EF3 Tornado Zones and Damage Curves

Zone	Buffer (feet)	Damage Curve
1	0-150	80%
2	150-300	50%
3	300-600	10%
4	600-900	0%

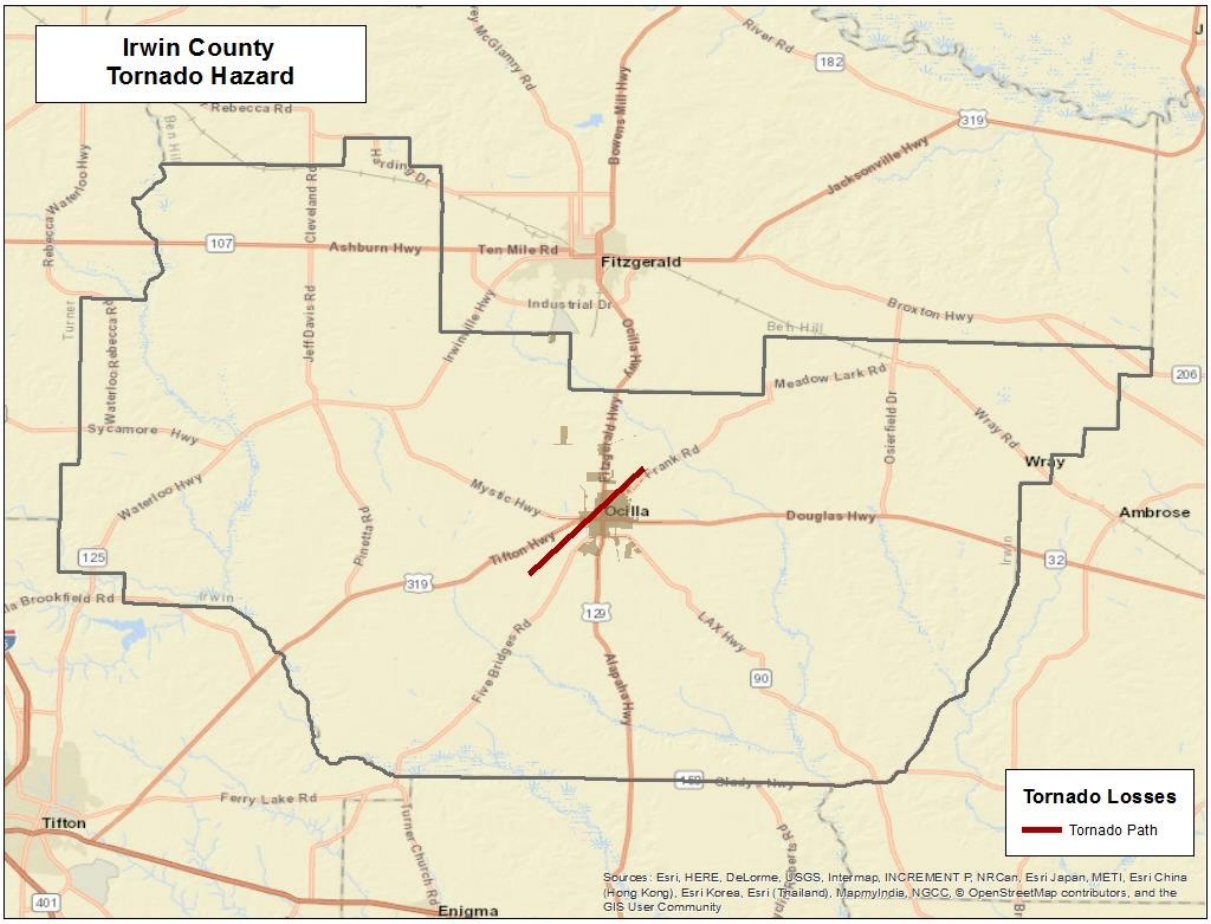

Figure 13: Hypothetical EF3 Tornado Path

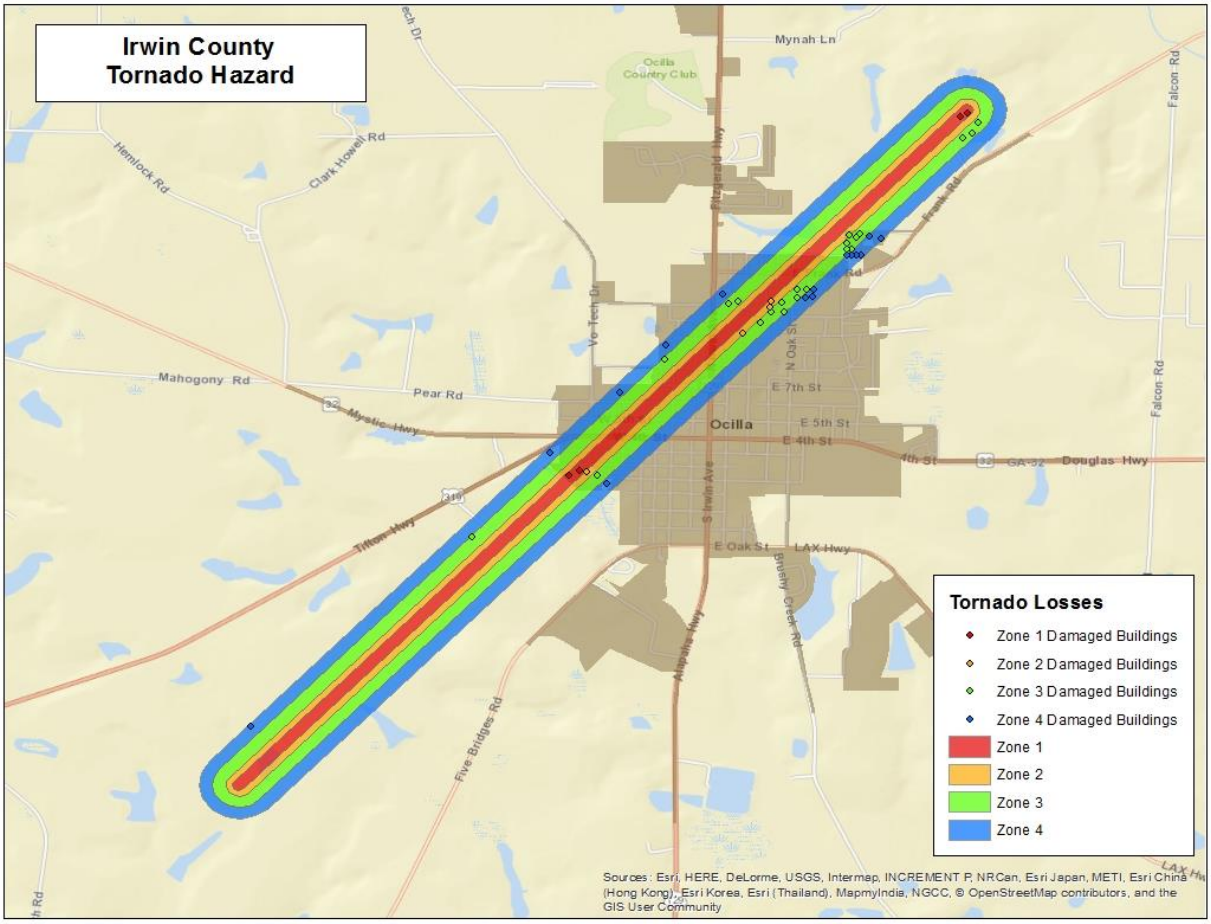

Figure 14: Modeled EF3 Tornado Damage Buffers

EF3 Tornado Building Damages

The analysis estimated that approximately 94 buildings could be damaged, with estimated building losses of approximately $3.3 million. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Irwin County that were joined with Assessor records showing estimated property replacement costs. The Assessor records often do not distinguish parcels by occupancy class if the parcels are not taxable and thus the number of buildings and replacement costs may be underestimated. The results of the analysis are depicted in Table 13.

Table 13: Estimated Building Losses by Occupancy Type

Occupancy Classification	Buildings Damaged	Building Losses	
Commerical	2	$	31,872
Educational	5	$	-
Industrial	8	$	813,240
Residential	79	$	2,420,944
Total	**94**	**$**	**3,266,056**

EF3 Tornado Essential Facility Damage

There were no essential facilities located within 900 feet of the modeled tornado path.

There were 3 essential facilities located in the tornado path according to the modeling, these 3 facilities would suffer minor damage should such a tornado strike occur.

The location of the damaged Essential Facilities is mapped in Figure 15.

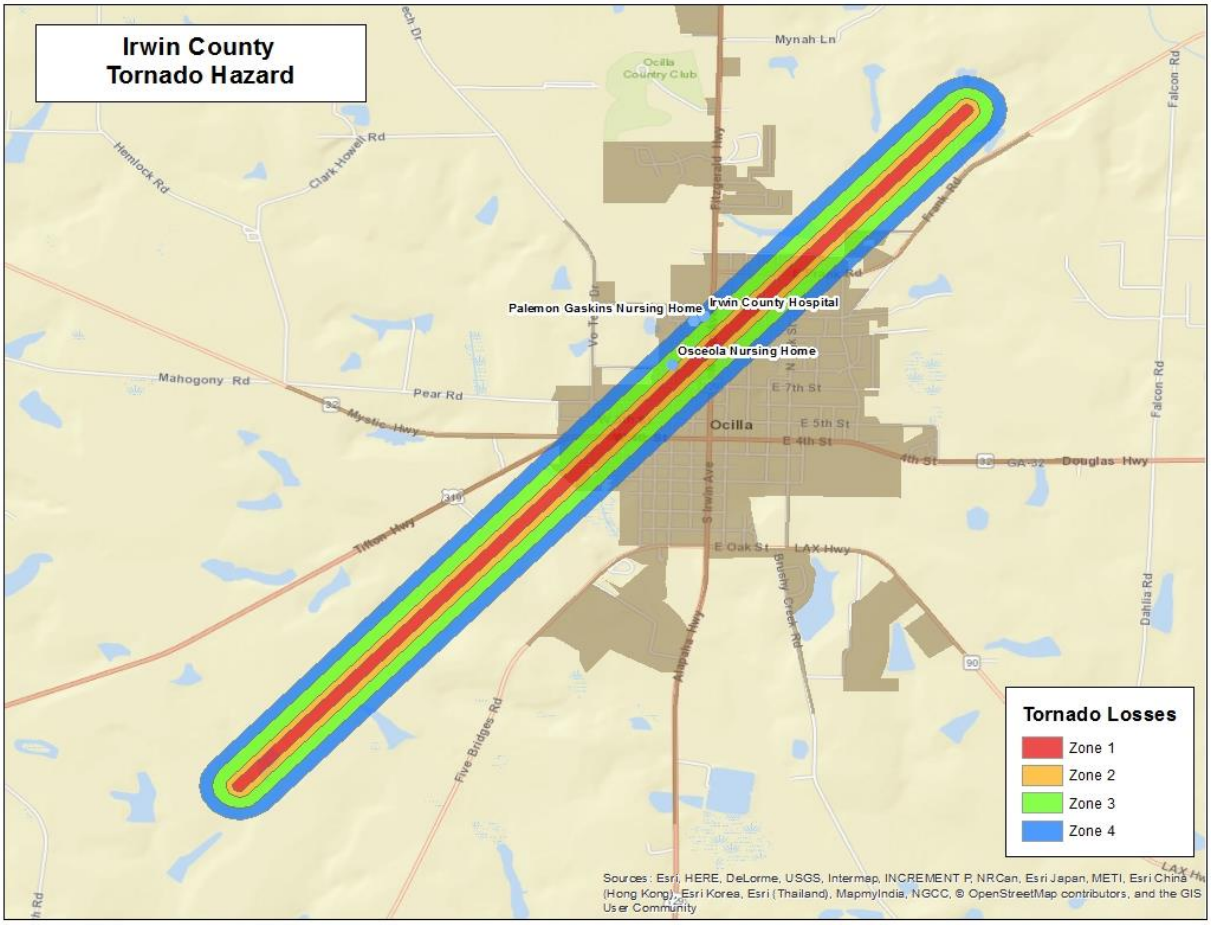

Figure 15: Modeled Essential Facility Damage in Irwin County

Exceptions Report

Hazus Version 2.2 SP1 was used to perform the loss estimates for Irwin County, Georgia. Changes made to the default Hazus-MH inventory and the modeling parameters used to setup the hazard scenarios are described within this document.

Reported losses reflect the updated data sets. Steps, algorithms and assumptions used during the data update process are documented in the project workflow developed by the Polis Center.

Statewide Inventory Changes

The default Hazus-MH Essential Facility inventory was updated for the entire state prior to running the hazard scenarios for Irwin County.

Statewide facility data were supplied by GEMA through the GMIS in June 2015. The Regional Commission updated the essential facilities in 2018. The updated data was used for this analysis. Table 14 summarizes the difference between the original Hazus-MH default data and the updated data for Irwin County.

Table 14: Essential Facility Updates

Occupancy Classification	Default Replacement Cost	Default Count	Updated Replacement Cost	Updated Count
Care	$ 26,130,000	3	$ 26,130,000	3
EOC	$ 880,000	1	$ 880,000	1
Fire	$ 3,683,000	6	$ 3,683,000	6
Police	$ 2,989,000	1	$ 2,989,000	1
School	$ 114,620,000	5	$ 111,619,000	4

County Inventory Changes

The GBS records for Irwin County were replaced with data derived from parcel and property assessment data obtained from Irwin County. The county provided property assessment data was current as of March 2018 and the parcel data current as of March 2018.

General Building Stock Updates

The parcel boundaries and assessor records were obtained from Irwin County. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary unless there were building footprints. Each parcel point was linked to an assessor record based upon matching parcel numbers. The generated Building Inventory represents the approximate locations (within a parcel) of building exposure. The Building Inventory was aggregated by Census Block and imported into Hazus-MH using the Hazus-MH Comprehensive Data Management System (CDMS). Both the 2010 Census Tract and Census Block tables were updated.

The match between parcel records and assessor records was based upon a common Parcel ID. For this type of project, unless the hit rate is better than 85%, the records are not used to update the default aggregate inventory in Hazus-MH. The Parcel-Assessor hit rate for Irwin County was 65.7%.

Adjustments were made to records when primary fields did not have a value. In these cases, default values were applied to the fields. Table 15 outlines the adjustments made to Irwin County records.

Table 15: Building Inventory Default Adjustment Rates

Type of Adjustment	Building Count	Percentage
Area Unknown	292	8%
Construction Unknown	317	8%
Condition Unknown	269	7%
Foundation Unknown	332	9%
Year Built Unknown	216	6%

Portions of the CAMA values were either missing (<Null> or '0'), did not match CAMA domains or were unusable ('Unknown', 'Other', 'Pending'). These were replaced with 'best available' values. Missing YearBuilt values were populated from average values per Census Block. Missing Condition, Construction and Foundation values were populated with the highest-frequency CAMA values per Occupancy Class. Missing Area values were populated with the average CAMA values per Occupancy Class.

The resulting Building Inventory was used to populate the Hazus-MH General Building Stock and User Defined Facility tables. The updated General Building Stock was used to calculate flood and tornado losses. Changes to the building counts and exposure that were modeled in Irwin County are sorted by General Occupancy in Table 1 at the beginning of this report. If replacements cost or building value were not present for a given record in the Assessor data, replacement costs were calculated from the Building Area (sqft) multiplied by the Hazus-MH RS Means ($/sqft) values for each Occupancy Class.

Differences between the default and updated data are due to various factors. The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

User Defined Facilities

Local parcel and CAMA data were used to develop points representing the locations of buildings in the county, referred to as User Defined Facilities (UDF) in the Hazus model. For the flood model, this includes only buildings located in the 1% Annual Chance Riverine Flood Area. Table 16 identifies the total building count & exposure for the county and the total building count & exposure for buildings located in the 1% Annual Chance Riverine Flood Area.

Table 16: Building Count and Exposure for County and Riverine Flood Area

Feature	Counts	Exposure
Total buildings in the County	3,062	$537,197,221
Total buildings inside the 1% Annual Chance Riverine Flood Area	116	$28,892,890

It should be noted that UDFs are only used in the flood modeling process, due to the fact that it is important to identify if individual buildings are located within the flood area to obtain the depth of flood.

Assumptions

- Flood analysis was performed on UDF. The point locations are parcel centroid accuracy.
- The analysis is restricted to the county boundary within the flood area. Events that occur near the county boundary do not contain loss estimates from adjacent counties.
- The following attributes were defaulted or calculated:
  First Floor Height was set from Foundation Type
  Content Cost was calculated from Building Cost